Telecom Commander D32

Installation and Maintenance Manual

581/114

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(ISSUE 1)

Telecom AUSTRALIA

Telecom Commander National Support Centre

The Telecom Commander National Support Centre has been set up by Telecom Technologies to assist you in the tasks of installing and maintaining Telecom Commanders.

Help Desk

The Help Desk is staffed by personnel experienced in all areas of Customer Premises Equipment. Call them during normal working hours for support on:

- installation procedures
- programming problems
- fault issues
- detailing
- equipment compatibility
- modifications, etc.

The staff at the Commander Support centre are keen to assist, however, please read the documentation provided with the product carefully before calling.

To contact the Commander Support Centre:

Documentation Support

If you find any problems with the documentation for this Telecom Commander product, please tell us.

We want to know if you find any of the following problems:

- mistakes in the manual
- any part is hard to understand
- difficulty in locating a subject
- format hard to follow, etc.

Either call the Help Desk to report the problem, or use the Suggestions form on the rear of this page.

ALL areas except Melbourne	Melbourne callers:
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These numbers are staffed from 8:00 am to 7:00 pm (EST) from Monday to Friday.

Support is available for Commander N, AN, BN, S, T, E, F120, and D, and FLEXITEL.

Suggestions about this Manual

The following form is provided for your suggestions. Please photocopy this page and fill it in.
When completed, post it to us at:

Telecom Technologies Pty Ltd
Sales Development
Locked Bag 10
Hawthorn VIC 3122

OR

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Division: Consumer ☐ Corporate and Government Cl Commercial Cl

Address:

..... Postcode .....

Telephone: ..... Fax: .....

Manual: Commander D32 Installation and Maintenance Manual, Issue 1

Suggestions: .....

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Chapter One
Telecom Commander D32
System Description

Introduction

This chapter describes the Telecom Commander D32 and explains its features and facilities.

General Description

The Telecom Commander D32 is a fully digital 32 port key system that supports up to 8 exchange lines and 24 keystations. It is non-blocking, so all lines and terminals may be used simultaneously.

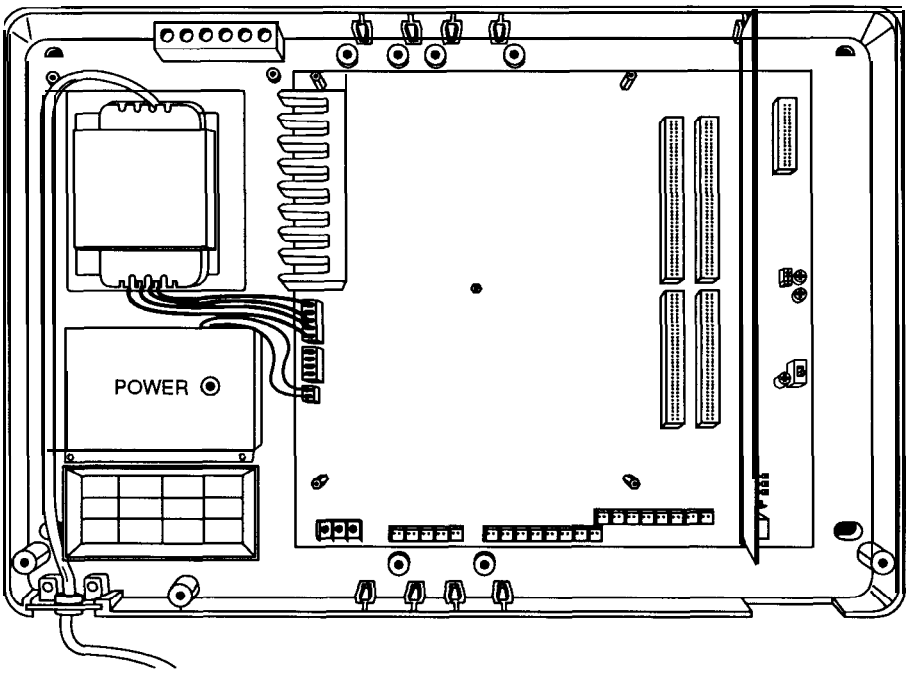
Interfaces within the main equipment permit the Telecom Commander D32 to be connected to the Public Switched Telephone Network (PSTN) and the Integrated Services Digital Network (ISDN). It supports simultaneously both voice and data communications.

Main Equipment

All the control equipment for the Telecom Commander D32 is housed in a wall mounted plastic cabinet (320mm x 470mm x 112mm). All the circuitry is on printed circuit boards (PCBs) and is made up of a Central Processor Unit (CPU), a 408 Main Board and the Power Supply. This provides a minimum configuration of 4 exchange lines and 8 digital station ports.

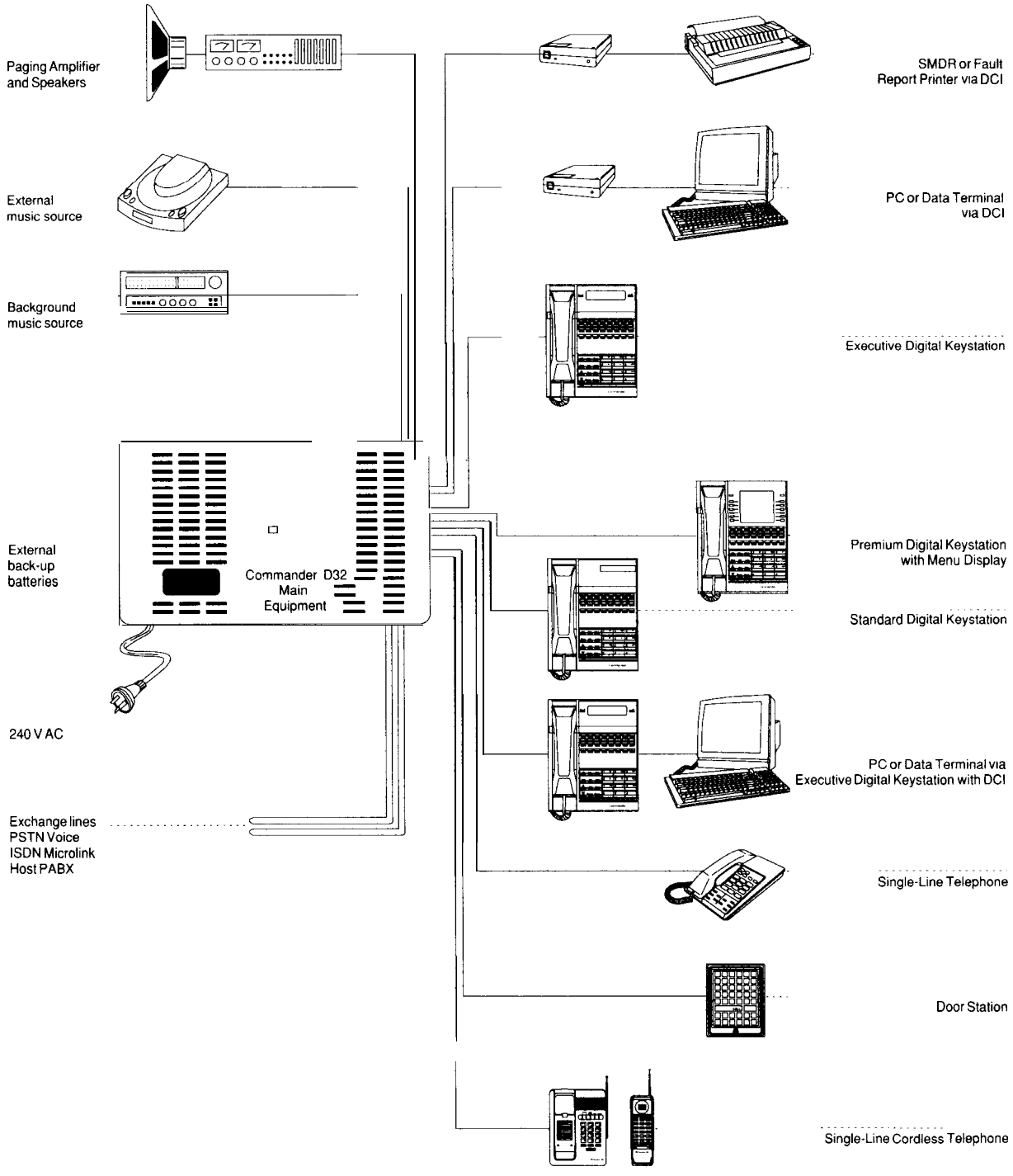
There is space within the cabinet for up to two, optional, expansion boards. Any combination of the expansion boards, detailed below, may be used.

External Battery Backup can be connected to the system via the optional internal Battery Charger/Ring Generator Board. This board also provides the internal ring generator for Single Line Telephones.



Telecom Commander D32 Main Equipment

[IL01]



Note: • All equipment connected to the Telecom Commander D must be Austel approved or connected via an Austel approved isolation unit
• Back-up batteries are optional
• Due to Telecom's policy of product improvement, the above facilities and specifications may be subject to change.

Telecom Commander D32 System Configuration

[IL02]

408 Main Board

The 408 Main Board provides 4 exchange line ports, 8 digital station ports, 4 x 4 party conference circuits, a system tone generator and regulator circuitry for the power supply.

The CPU plugs directly into the 408 Main Board. Other sockets on this board provide the connections for up to two Expansion Boards, a Battery Charger/Ring Generator Board and the Main Power Supply.

The exchange lines and station cabling plug directly into the Main Board and the Expansion Boards, without a separate System Distribution Frame (SDF). Other connectors on the Main Board provide for two dedicated Power Fail Telephones, Door Station/External Paging, external Music On Hold (MOH) and Background Music (BGM). The system tone generator supplies internal MOH and DTMF tones.

208 Expansion Board

The 208 Expansion Board provides 2 exchange line ports, 8 digital station ports and associated filtering. The first exchange line is switched under power fail conditions.

204 Expansion Board

The 204 Expansion Board provides 2 exchange line ports, 4 analogue station ports and associated filtering. The first exchange line is switched under power fail conditions.

004 Expansion Board

The 004 Expansion Board provides 4 analogue station ports and associated filtering.

ISDN Expansion Board

2 Microlink ISDN Accesses are provided by the ISDN Expansion Board. The system can only accommodate one ISDN Expansion Board.

Note: The Main Equipment can support any mix of the above Expansion Boards to a maximum of two.

Battery Charger/Ring Generator Board

This board provides two functions:

- A battery charger circuit for an external Battery Backup
- An internal ring generator unit, which provides ring signals for any Single Line Telephones connected to the system.

A simpler version of this board, with only the battery charger circuit, is available.

Main Power Supply

The Telecom Commander D32 Power Supply consists of a transformer, located within the Main Equipment, and the regulator circuitry mounted on the 408 Board. Together they provide stable, regulated, DC voltages from the AC mains power or (where provided) from the Backup Battery, should the mains power fail. The following voltages are generated:

Voltage	Use
± 5V	Power for digital circuitry on the PCBs
+ 12v	Power to operate relays within the Main Equipment.
- 48V	Supplies power to drive the stations, the ring generator and the charging current for the standby battery, should one be connected.

Powerfail

In the event of a power failure up to 4 exchange lines may be automatically switched to designated stand-alone powerfail Single Line Telephones. The first two exchange lines on the 408 Main Board and the first exchange line of each Expansion Board are prepared for this facility.

User Equipment

Keystations

There are 8 models of keystation offered with the system:

Standard Keystation (16 line keys. No display)

Standard Keystation (32 line keys. No display)

Executive Keystation (16 line keys. 2 line display)

Executive Keystation (32 line keys. 2 line display)

Executive Keystation (16 line keys. 2 line display plus DCI*)

Executive Keystation (32 line keys. 2 line display plus DCI*)

Premium Keystation (32 line keys. 8 line display)

Premium Keystation (32 line keys. 8 line display plus DCI*)

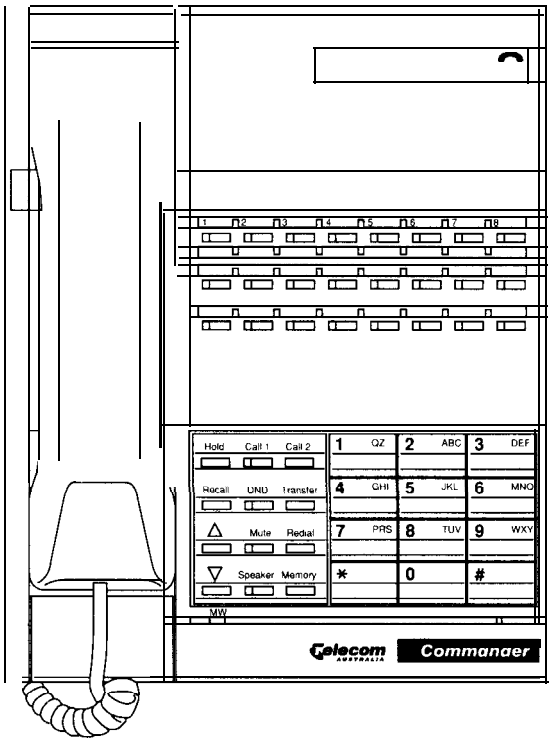
*DCI = Data Communications Interface. A DCI allows a data terminal to be connected to the keystation.

Each system must include one 32 line Executive Keystation to enable System programming.

All stations are connected directly to the Main Equipment via two wires of a two pair cable.

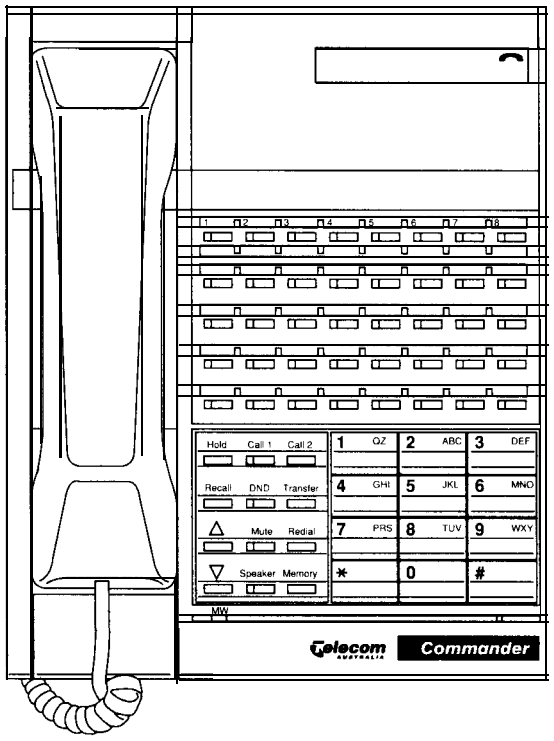
Refer to the following Illustrations:

m-031	Standard Keystation 16 line keys , no display
[IL04]	Standard Keystation 32 line keys, no display
[IL05]	Executive Keystation 16 line keys, 2 line x 20 digit display
[IL06]	Executive Keystation 32 line keys, 2 line x 20 digit display
[IL07]	Premium Keystation 32 line keys, 8 line x 20 digit display
[IL08]	Keystation DCI connection



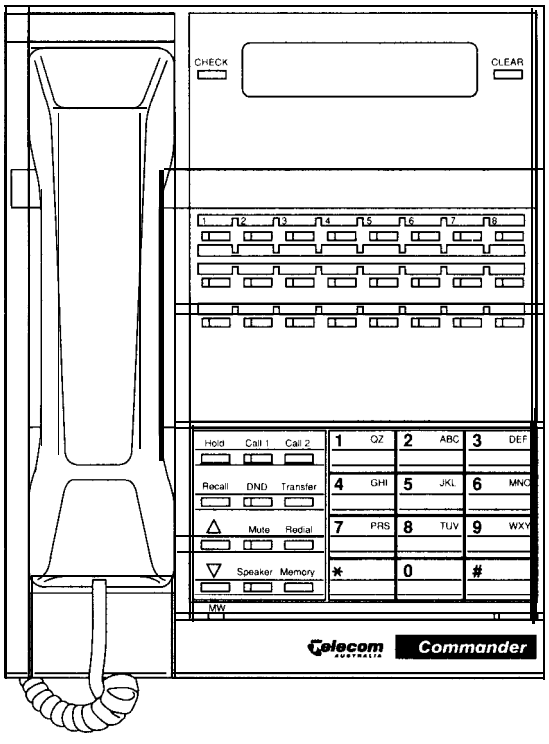
Standard Keystation (16 line keys)

[IL03]



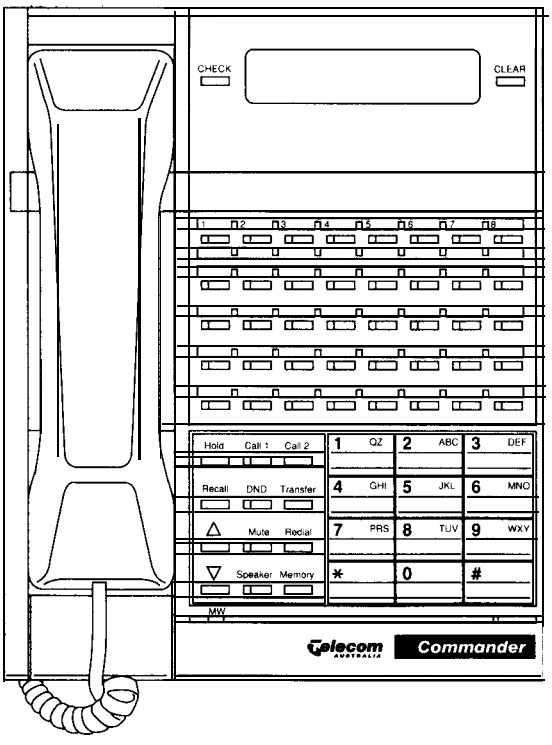
Standard Keystation (32 line keys)

[IL04]



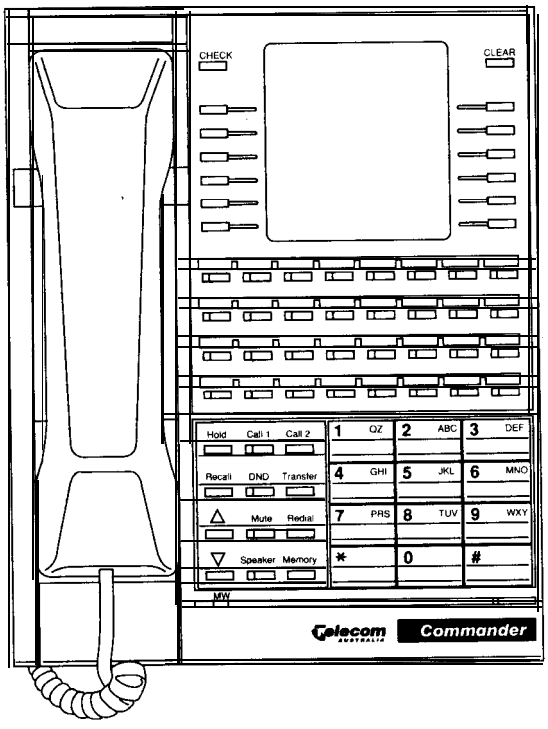
Executive Keystation (16 line keys)

[IL05]



Executive Keystation (32 line keys)

[IL06]



Premium Keystation

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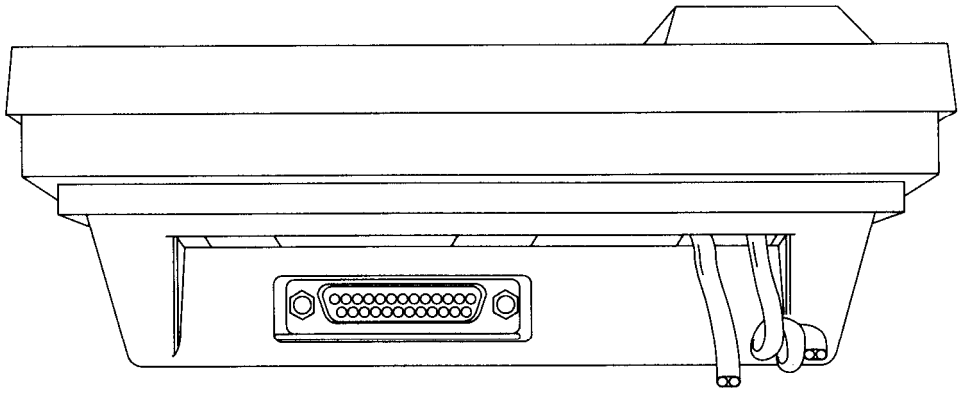
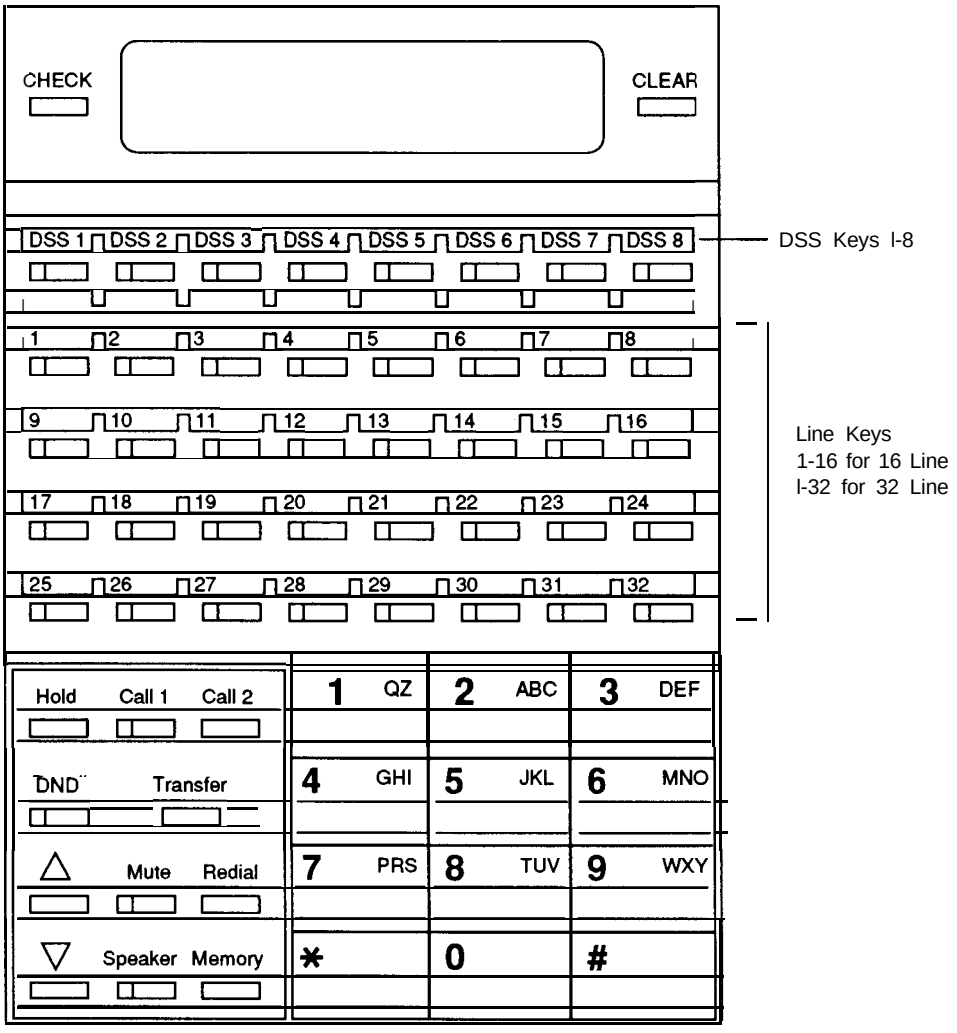


Keystation DCI Connection

[IL08]

Keystation Key Layout



Keystation Key Layout

[IL09]

[CHECK] Used in conjunction with other keys to display their particular functions. This key is also used to shift the cursor left during text message editing.

[CLEAR] Used to clear the display to its previous idle/operating status. This key is also used to shift the cursor right during text message editing.

Line keys Used to access exchange lines or specially programmed facilities. These keys are also used to enter characters for text messages during system programming.

The default assignment of key functions is:

- Keys 1 to8 Exchange Lines 1 to 8
- Key9 Message Wait
- Key 10 Call-back
- Key11 Divert
- Key 12 Conference
- Key 13 Group Pick-up
- Key 14 Internal Paging Group
- Key15 Internal Paging All
- Key16 Follow Me
- Keys 17 to 32 Not Defined

[DSS] Allows one-button operation to connect to stations or to access repertory dialling.

[Hold] Used to place exchange lines and intercom calls on hold. Also used to access the next message when selecting a text message.

[Call 1] Used to access intercom lines and programming facilities.

[Call 2] Used to access intercom lines and programming facilities.

[Recall] Used to recall the parent PABX.

[DND] Do Not Disturb, used to block all audible signals to a station.

[Transfer] Used to transfer a call (during conversation) to another station.

[Δ] Used to increase the handset or speaker volume. This key is also used to scroll up through text messages.

[∇] Used to reduce the handset or speaker volume. This key is also used to scroll down through text messages.

[Mute] Enables/disables the station microphone.

[Redial] Redials the last number called.

[Speaker] Used to enable/disable the handsfree mode.

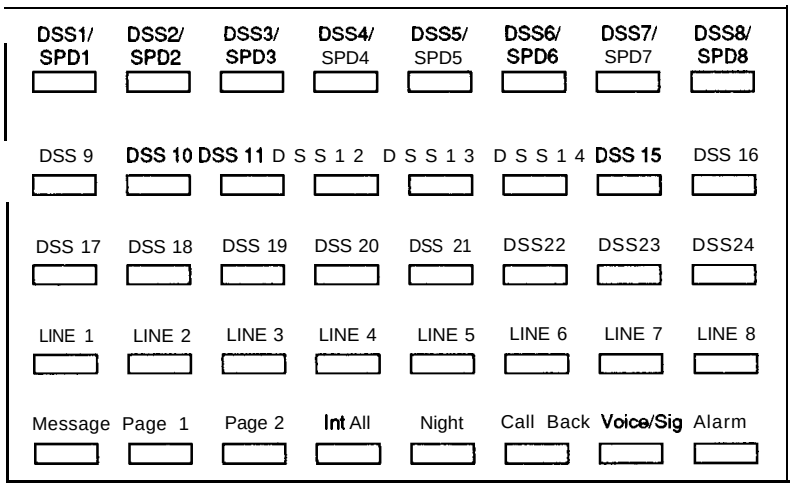
[Memory] Used to store and access numbers in the memory.

[*] Used to input an account code. This key is also used to enable/disable the key confidence tone.

[#] Used to change from Decadic dialling to DTMF during a conversation. This key is also used to enable and disable background music through the station speaker.

Direct Station Select (DSS) Station

The Telecom Commander D32 cannot support a DSS Console, however any 32 line Standard or Executive Keystation (but **not** a Premium) can be designated as a DSS Station. This station will provide all normal station functions, but when designated as a DSS Station will have a different key layout as follows:



Function Keys

The following functions are assigned to the bottom row of line keys.

Label	Name	Description
Message	Message Wait:	You can leave a visual indication at a busy or unattended keystation indicating that you would like that person to contact you.
Page- 1 Page-2	Internal Page to Group 1 Internal Page to Group 2	The Telecom Commander D32 provides an in-built paging system allowing paging announcements to be made over the speakers of keystations. The keystations can be programmed into one of two paging zones, enabling paging announcements to be directed to specific paging zones.
Int-ALL	Page to all stations.	All Call Page allows a paging announcement to be made to both Internal Paging Zones.
Night	Manual Switching to Night Service	The Night Service facility enables the mode of operation to be varied at different times of the day.
Call Back	Call-back/Camp-on	Allows your station to be signalled when a busy station or exchange line becomes free.
Voice/Sig	Voice/Signal Call	This key is used to switch, a keystations you are calling, between Signal Call (ringing) and Voice Call. A special Class of Service is required to enable this function.
SYS.AL	System Alarm	The lamp associated with this key indicates when a system alarm is activated. Minor Alarm - The lamp flashes Major Alarm - The lamp glows steady. **Note:** This key is a display key only, it has no function.

Programmable Key Functions

Functions other than exchange line access can be assigned to the line keys by entering the key number and the required function code. (Refer to Chapter 3 - *System Programming* for details)

Function Code	Function Name
0	Not assigned
1 - 10	Trunk port number
1000	Call-back
1001	Divert
1002	Follow Me
1003	Monitor
1004	Conference
1005	Night Switch
1006	Line access
1007	Line Group access
1008	Group Pick-up
1009	Other Group Pick-up
1010	Direct Group Pick-up
1011	Internal Paging zone
1012	Internal Paging All
1013	N/A
1014	External Paging All
1015	Transmitter Mute
1016	Buzz
1017	By-pass call
1018	Break-in
1019	Message Wait
1020	Text Message
1021	Headset mode change
1022	Meet Me set or Meet Me Answer
1023	Call For
1024	Data
1025	Data Privacy
1026	All Call paging
1027	Voice/Signal switching (Calling party)
1028	Current Charge (ISDN)
1029	Continuous Charge (ISDN)
1030	End of Call Charge (ISDN)
1031	Malicious Call Trace (ISDN)
1032	Account Code
1033	DSS Station, DSS Key Assignment
1034	System Alarm Lamp
1035-1050	Reserved

Data Communications Interfaces (DCI)

Data Communications Interfaces (DCIs) provide the interface between the Telecom Commander D32 and Data Terminal Equipment (DTE).

The system will support up to 12 DCIs. Where a DCI is fitted within an Executive or Premium Keystation, the total number of keystations that can be connected to the system is not affected. For each stand-alone DCI installed, the total capacity for keystations is reduced by one.

Single Line Telephones

The system can support up to 8 Single Line Telephones (SLTs), which can only be connected to the analogue ports on the 204 and 004 Expansion Boards . When SLTs are connected to the system a Ring Generator Board is also required to provide the ring current.

Single Line Telephones are also used as powerfail telephones, but these are in addition to the SLTs connected to the Expansion Boards.

Remote Extensions

Remote Extensions are permitted on the Telecom Commander D32, but must not be connected via network cabling.

Voice Link/ODX

Outdoor Extensions or Off Premises Extensions (OPX) which are connected via network cabling are not currently permitted on the Telecom Commander D32.

Door Station /External Paging

The Telecom Commander D32 can support either one Door Station or an external paging device. The fourth exchange line on the 408 Main Board must be reassigned for either one of these facilities to be connected.

When activated, a call from the Door Station will ring at a pre-programmed station or group of stations. A Commander BN Door Station (338/860) should be used. External Paging provides one way communication to an external paging device. An AUSTEL approved Line Isolation Unit may be required.

Door Lock

When a Door Station is provided a set of contacts is available to control an electrically operated door lock. An AUSTEL approved door lock must be supplied by the customer.

Headsets

A keystation handset can be replaced with an AUSTEL approved headset, if required. To use the headset, one of the keystation line keys must be reprogrammed. (Refer to Chapter 3 - *System Programming* for details).

Where a headset is used, the [Speaker] key performs the hookswitch function. A converter lead may be required to match the headset connections to those on the keystation handset socket.

Station Message Details Recorder (SMDR)

An SMDR printer can be connected to any of the system's DCIs. For a description of the SMDR printout, refer to Appendix *C - Station Message Details Recording.*

Voice Mail (PC based)

This system is compatible with a range of PC-based Voice Mail systems.

System Capacity

The system capacity is as follows:

Exchange lines (PSTN)	**8 max**
408 Board	**4**
208 Expansion Board	**2**
204 Expansion Board	**2**
Powerfail lines	**4 max**
408 Board	**2**
208 Expansion Board	1
204 Expansion Board	1
Microlink Accesses	**2 max**
Digital keystations	**24 max**
408 Board	**8**
208 Expansion Board	8
Single Line Telephones	**8 max**
204 Expansion Board	**4**
004 Expansion Board	**4**
Data Communication Interface	**12 max**
Speed Dialling	
Common	100
Personal	10
Repertory dialling	up to 10
Class of Service	
Access Barring	**6**
Extension user	10
Internal Paging zones	**2**
Station Groups	**4**
Hot Line Pairs	**10 max**
Door Stations/External Paging	**1 max**

The system can accommodate either one Door Station or one External Paging device. Either facility is provided by re-assigning the fourth exchange line on the 408 Board.

Conference

4 simultaneous conferences of up to 4 parties in each conference. A maximum of 2 external parties may be included in each conference.

System Facilities

Incoming Calls

Console Operation

The system can be configured with or without a central operator position.

Direct Dial In (DDI)

This facility is only available via the ISDN. It allows incoming calls to signal an individual station, depending upon the number dialled.

Incoming Ring Groups

Audible signalling of each incoming line can be assigned to any number of stations on the system.

Exchange Line, Automatic Answer

A keystation CM be programmed to answer an incoming exchange line call ringing at the station by lifting the handset or pressing the [Speaker] key.

Incoming Call Indication

Visual indication of exchange line calls is provided by LEDs associated with each line key.

Exchange Line Pick-up

This facility allows a station user to answer an incoming exchange line call ringing at another station, by dialling the Call Pick-up code.

External Speaker Incoming Call Indication

Incoming calls can be signalled on external speakers.

Incoming Ring Preference

The system can be programmed to allocate priority to either exchange line calls or internal calls. Ring back tones have priority over normal incoming calls.

Incoming Ring Tone Selection

The system provides four different types of ring tone for incoming exchange line calls. These are programmed on a per line basis.

Incoming Call Unanswered Alarm

If an incoming call is not answered within a pre-set period, the ringing pattern alters to provide an alert signal.

Incoming Ring Volume Adjustment

The incoming ring volume may be adjusted using a 3-position switch on the keystation.

Queuing of External Incoming Call

External incoming calls are queued under the [Call 1] or [Call 2] keys. Pressing the appropriate key will answer the longest waiting call.

During a Call

Automatic Hold by Line Key Depression

An exchange line call may be automatically placed on Exclusive Hold when toggling between exchange lines. The [Hold] key does not need to be pressed to hold the exchange line. This facility must be programmed.

Call Waiting

When an exchange line is transferred to a busy station, a Call Waiting tone is provided, to the busy station, to indicate that another call is waiting to be answered.

Hold

The hold condition may be "exclusive", allowing only the holding station to retrieve the call from hold, or "common", allowing any station to retrieve the held call.

Hold Recall

When an exchange call has been on hold for longer than a pre-set time, a signal is activated as a reminder to the station that put the line on hold.

After a preset time, a call on Exclusive Hold will revert to Common Hold, allowing any keystation to retrieve the call.

Long Conversation Warning Tone

A warning tone may be sent to a user to indicate that the call in progress has exceeded a pre-set time.

Transfer

A call may be transferred to another station with or without announcement. If the called station is ringing or busy, the call will Camp-on and Call-back to the originating station if not answered within 30 seconds (programmable).

Transfer Number Display

When a call is transferred to a display keystation, the display indicates the line number, or name, and the station from where the call was transferred.

Outgoing Calls

Access Barring

The system can restrict outgoing trunk calls on the basis of the dialled number and the number of digits dialled. There are 6 Access Barring classes:

Class 1	Unrestricted access.
Class 2	Barred IDD.
Class 3	Barred IDD and STD except where the dialled code is the same as an allowed STD/IDD code. Local calls are allowed.
class 4	Local calls only.
class 5	Intercom and internal PABX calls only.
Class 6	Intercom calls only.

Account Code

A station user may enter an account code, for call detail recording purposes, at any time during an exchange line call. This procedure may be made compulsory.

Chain Dialling

The station user can dial two or more abbreviated codes successively.

Class of Service

The system offers 10 Classes of Service which establish the facilities available to each station user. Features available in each class are:

Class 1	Internal and external calls, including Common and Personal Speed dialling, Saved Number Redial, Last Number Redial, and Access Barring Override by password.
Class 2	Class 1 access plus Call Pick-up, Follow Me, Call-back and Camp-on.
Class 3	Class 2 access plus Page, Conference, Message Wait, Text Message.
Class 4	Class 3 access plus Divert, DND.
Class 5	Class 4 access plus Break-in, Bypass Call, Monitor
Class 6	Class 1 plus key programming and station programming (ie. Alarm, Personal Speed Dialling, Intercom Answer Mode, Buzz, Call For 'and DCI set up.)
Class 7	Class 6 access plus Call Pick-up, Follow Me Call-back and Camp-on.
Class 8	Class 7 access plus Page, Conference, Message Wait, Text Message.
Class 9	Class 8 access plus Divert, DND.
Class 10	Class 9 plus Break-in, Bypass Call, Monitor (Full Service)

Conference

A station user can set up a multi-party conference. Up to four internal stations, or up to two external lines and two internal stations may participate.

DTMF Signalling for External Line

The system can send DTMF signals to the local exchange for dialling purposes. Further DTMF signals can also be sent to the exchange line after connection has been established.

Exchange Line, Automatic Seizure

A station can be programmed to automatically seize an exchange line when going off-hook.

Exchange line, Camp-on/Call-back

When all exchange lines are busy, a station user may Camp-on to a particular line or receive a Call-back when the line becomes idle.

Exchange Line, Direct Selection

A keystation user may seize specific external lines by pressing the appropriate line key.

Exchange Line, Group Selection

A station user may seize the first free exchange line in an exchange line group, by dialling the exchange line group's access code, or by pressing a programmed Exchange Line Group key.

Exclusive Line

An exchange line may be programmed for exclusive use at a particular station.

Last Number Redial

The last number dialled may be automatically redialled by pressing the [Redial] key.

Mixed External Line Accommodation

The system accommodates both direct exchange lines and PABX lines. It can distinguish between these lines and automatically insert or strip a PABX access code, as appropriate, when dialling a stored external number.

Recall

To access facilities from a parent PABX, the system can be programmed to provide a timed loop break of variable duration.

Repeat Dialling

A keystation can be programmed to automatically redial a busy number after a specified time.

Repertory Dialling

The DSS keys on a keystation may be programmed to provide single button dialling of an external number after-an exchange line is seized.

Saved Number Redial

A number can be saved, so the user can redial it at a later time, by pressing the [Memory] key twice.

Internal Calls

Alternate Point Answer

An intercom call to a station can be answered by another station in the same group, by using the Call Pick-up facility.

Automatic Release of a Held Intercom Call

An internal call that has been put on hold will be automatically cleared if the caller terminates the call.

Bypass Call

A user, calling a station which is in DND or divert mode, can bypass the diversion and call the wanted station by invoking the Bypass call facility.

Direct Station Selection (DSS)

A keystation user can make a single button intercom call by pressing a pre-set [DSS] key on the keystation.

Intercom Call

Any station can call another station by dialling the appropriate station number.

Intercom Call Status Indication

The status of a called intercom station is shown on the display of a calling display keystation.

Intercom Camp-on/Call-back

If a called station is busy, the calling station can camp-on by dialling the Call-back code and waiting, without hanging up, for the busy station to become free. Alternatively the calling station may hang up after dialling the Call-back code and wait for the busy station to ring back when it becomes free.

Intercom Hotline A station may be programmed to automatically call a specified intercom number when the station goes off-hook. This number may be a station number or a station group number.

Intercom Line, Automatic Seizure A station may be programmed to automatically select an intercom line when the station goes off-hook.

Intercom Signal/Voice call Each individual keystation can be programmed to signal intercom calls by intercom ring signal, or by a burst of tone, followed by the caller's voice through the keystation speaker. The called station user has control of whether it is a Signal Call or a Voice Call.

Meet Me Answer A paging call (internal or external) can be answered at any station by dialling the correct service code.

Meet Me Conference A Meet-me Paging call internal or external) may be used to establish a conference call.

Paging, All Internal A paging call can be made through the speakers of all stations that are in an internal paging zone.

Paging, All External A paging call can be made to an External Paging system connected to the Telecom Commander D32.

Paging, All Internal/External A paging call can be made simultaneously through the speakers of all keystations and the External Paging system connected to the Telecom Commander D32.

Paging, Internal Zone Two paging zones are available on the system. A Station Group can be placed in one zone only.

Paging, Transfer A call may be transferred after a page announcement.

Station Group Call The first free station in a group may be called by dialling the Station Group access number.

Registration of Unanswered Incoming Intercom Calls Incoming intercom calls during a user's absence can be registered and then shown on display keystations. A maximum of five calls are displayed by pressing the [Check] key followed by the [Call 2] key.

Reset Call (Follow **on call)** After hearing busy tone or ringback tone when ringing a station, this facility allows the calling station to dial another station number without having to hang up from the first call.

Data Calls

Asynchronous Data Switching The system allows asynchronous mode of transmission at speeds up to 19.2 kbps between data terminals in full duplex mode.

Automatic Answer When a dam station is set in the Automatic Answer mode, an incoming data call will be (answered automatically by the data terminal.

Bit Rate Conversion This facility allows terminals with different data rates to communicate with each other via DCIs.

Data Call Detail Recording In association with a printer, a hard copy of all internal and external data calls can be provided.

Data Call Queuing/Call-back When the called data station is busy, the calling data station can either queue on line or initiate a Call-back when free.

Data Group Hunting When a data call encounters a busy data station which is a member of a DCI group, the call will step to the first free data station in that group.

Data Hotline This facility automatically connects a data station to a pre-set internal data station, without dialling.

Data Privacy A Single Line Telephone user with a modem connected can set Data Privacy mode so that call processing tones cannot intrude into a data call and cause data corruption.

Data Terminal Connection Executive and Premium Keystations can have an RS-232-C interface (DCI) for connection of a data device.

Simultaneous Voice/Data Communication Voice and data can be transmitted simultaneously over a single pair of wires, making it possible to make a dam call while a conversation is in progress to the same, or another, destination.

Terminal Keyboard Dialling This allows both internal and external data calls to be dialled from the terminal keyboard.

Station Facilities

Access Barring Override

A user may override the Access Barring class of a station, by dialling a password.

Alarm Reminder

A keystation user may set an alarm signal to ring at a pre-set time. Two alarms are available at each keystation.

Background Music (BGM)

While a keystation is idle, music from an external source can be played through the keystation speaker. Background music is turned on and off by pressing the [#] key. An Austel approved Line Isolation Unit may be required.

Busy Lamp Field (BLF)

When a station that is programmed on a Direct Station Selection (DSS) key is busy, the LED associated with the DSS key will light indicating that the station is busy.

Buzz

A 'buzz' key on a keystation allows the user to signal a paired keystation by a short burst of ring tone. This facility is designed for managers and secretaries to signal one another without making an intercom call.

Confidence Tone

When Confidence Tone is enabled a low level tone is heard to confirm the registration of each key press. The tone is enabled or disabled by pressing the [*] key while the station is idle.

Divert Calls

This facility enables a station user to redirect incoming calls to another station. There are three types of call divert:

1. All calls are diverted,
2. Calls that are unanswered after a preset time are diverted,
3. Calls that are unanswered and calls when the station is busy are diverted.

A call may be forwarded twice within the system.

Do Not Disturb (DND)

This facility blocks all incoming exchange and intercom calls. DCI calls are not affected.

Door Station Monitoring

A station user can make a call to the Door Station to monitor the activity in the Door Station area.

Door Unlock

While in communication with the Door Station, the door may be unlocked by pressing the [Recall] key. Note: An approved door lock must be provided by the customer.

Dual Speech Path

Each keystation has two speech paths to enable incoming calls to signal a keystation user while they are on an existing call.

Executive Over-ride (Break-In)

A station with this facility may break-in on an existing conversation at another station. The third party is temporarily excluded from the conversation and does not hear the intrusion.

Manager/Secretary Pairs

When a station programmed as the 'manager' station selects DND, all calls to that station are automatically forwarded to the associated secretary's station. The secretary can call back to the manager's station.

Follow Me

Follow Me allows a user to divert all calls from their station to a second station, while located at the second station.

Handsfree Conversation

The keystation's in-built speaker and microphone can be used to make and receive two-way intercom and exchange line calls without lifting the handset. Handsfree volume is adjusted by opemting an electronic volume control on the keystation.

Handset Receiving Level Adjustment

A keystation user can adjust the handset's receiving level by operating an electronic volume control on the keystation. The volume returns to normal when the keystation goes on-hook.

Headset Connection

A keystation handset can be replaced with a headset. A line key must be programmed to switch between the headset and handsfree mode. The [Speaker] key performs the switchhook function.

Message Waiting

A visual indication may be activated at a busy or unattended keystation indicating that you would like the called person to contact you. When the called person responds to the message, a call is automatically established to the originating station.

Microphone Mute

When on a handsfree call, a keystation user can turn off the microphone so the external party cannot hear any local conversation.

Monitor

A keystation user can monitor activity in the vicinity of another keystation by using the Monitor facility.

Multiple Call Handling

A keystation user can alternate between calls by toggling between the [Call 11 and [Call 2] keys.

Night Service Indication

When a keystation has a [Night] key programmed, Night Service mode is indicated by the LED on that key.

Off-hook Signalling

While a keystation is already engaged on a call, a second incoming call will signal with muted ring tone.

On-hook Dialling

All keystations can make calls with the handset on-hook. Progress of the call can be heard on the keystation speaker.

Programmable Keys

The line keys and DSS keys on a keystation are programmable:

Line keys - for exchange lines and features
DSS keys - for DSS and Repertory dial numbers

Speed Dialling -Common

This facility enables a station user whose station is programmed for access to Common Speed Dial, to make external calls by dialling the Abbreviated Dial code (100 numbers per system).

Depending on how the system is programmed, dialling of numbers in the Common Speed Dial store may or may not be subject to the Access Barring class of each station.

Speed Dialling -Personal

Each station can store up to ten Personal Speed Dial numbers.

Station Naming

Each station can be assigned an identification name of up to eight characters. This name is displayed during calls on display keystations.

Two Colour LED Indication

Red and green LEDs are used on keystations to aid visual indication of calls. The green LEDs indicate 'Activated at this keystation' while the red LEDs mean 'Activated by another station'.

Display Stations

Keystations may be equipped with one of two displays:

2 line x 20 character - Executive Keystations

8 line x 20 character - Premium Keystations

Idle Mode Display

When a keystation is in the idle mode, the display indicates the current time and date on the top line and the station number and identification on the second.

Dialling Mode

During dialling the display indicates the digits being dialled.

Conversation Mode

During conversation on either an incoming call or an outgoing call the display will show the number and identification of the station to which you are connected.

Conference Participants

During a conference call the display indicates the external line and internal participants in that conference.

Call Duration Timer

Users can display the elapsed time of external conversations.

Call Pick-up Display

If a call is answered using Call Pick-up the display will indicate at which station the call was originally ringing.

Calling Station Number Display

When a keystation is ringing the display indicates the calling station's number, and its name.

Display Clear

Information on a keystation's display can be cleared by pressing the [Clear] key.

Key Assignment

By first pressing the [CHECK] key and then a programmable key the display will show the function or number assigned to that key.

Menu

This facility is designed to simplify operation of the system. System users can access various system facilities without having to remember a large number of service codes or key operations. The menu operation is a feature of the Premium Keystation only.

Preset Dial

A user with a display keystation can set the number to be dialled before selecting an exchange or intercom line. When the line is selected, the number is automatically dialled.

Reverted Call Display

When a transferred call is unanswered and returns to a display keystation, the message 'REVERTED' is displayed together with the number of the station from which the call has reverted.

Status Indication

A keystation display indicates the functions that have been invoked at that station, eg. DND, Divert.

Text Message

When a display keystation is called, it can send a 32 character Text Message to the display of the calling keystation. There are 10 fixed messages and 10 customer programmable, system based messages. Each 32 line key display keystation can also program one individual message.

Time Setting

A keystation with a display can be used to set the system clock via password entry.

Miscellaneous

Automatic Pause Insertion

When a PABX access code is included in a stored external number or an automatic redial number, the system will automatically insert a pause after the PABX access code is dialled.

Calendar Function

The calender function enables the system to be programmed for time and date, automatic night switching and scheduling of routine diagnostics.

Decadic to Tone Signalling

When dialling out on Decadic lines, the station can switch to DTMF signalling to access telephone banking and computer services networks.

Disturbance Supervision

The system will automatically print out service failures to an optional printer.

DTMF/Decadic Line Accommodation

Both DTMF and Decadic lines can be connected to the system. The system can be programmed to recognise each line as either DTMF or Decadic, and dial out accordingly.

Exchange Line Naming

Exchange lines can be assigned an identification name of up to 8 alphanumeric characters.

Flexible Numbering Plan

Flexible numbering allows customers to assign station numbers in accordance with their specific requirements. Station numbers of up to four digits can be integrated into the numbering plan.

ISDN Function

The system provides a direct interface with the ISDN when equipped with the ISDN Board. The system can accommodate only one ISDN Board, which provides for the connection of 2 Microlinks.

Local Diagnostic

System fault information is accessible via a display keystation.

Music-on-Hold (MOH)

The Telecom Commander D32 has an internal MOH facility to provide music on a line when it is placed on Hold . Two different internal MOH melodies are available.

An external music source can be connected to the system and used instead of the internal melodies. An Austel approved Line Isolation Unit (LIU) may be required.

Exchange lines can be programmed individually to provide this facility.

Night Service

The system has a Day mode and two Night modes. The mode is selected either automatically or manually.

Programming

The system provides four levels of programming Levels 1, 2, and 3 are protected by passwords.

The levels are:

1 Manufacturer

2 Installer

3 System Administrator

4 Station user

Programming Data Entry

Program information CM be entered from either a 32-line, display keystation or from a PC (equipped with suitable interface software) connected to the RS232C port on the CPU board. A PC Programming Interface Unit (PPIU-D-A) must be used.

Station Groups

The system allows stations to be allocated in up to 4 groups so that any station within that group can pick up calls ringing at other stations within the group. It also provides for group hunting, where calls can be directed to the first free station within a group.

Station Message Detail Recording (SMDR)

The SMDR facility is used to print details of calls in a variety of formats (depending on the system programming).

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Chapter Two
System Installation

Introduction

This chapter describes the procedures that must be performed to correctly install the Telecom Commander D32 hardware.

The chapter begins with a checklist that summarises the installation procedures. Each point in the checklist is then explained in detail. Illustrations and references are also provided to amplify the text.

Safety Precautions

The Telecom Commander D32 equipment contains many static-sensitive components.

To reduce the incidence of premature equipment failure, observe the following precautions:

- Always discharge static from yourself before handling any Printed Board Assembly (PBA), and wear an antistatic wrist strap connected to the Main Equipment earth.
- Always handle PBAs by the edges.
- Never touch PBA tracks or connectors. Contaminants introduced by fingers can cause corrosion and high resistance connections.
- Never touch components. They are physically delicate and finger pressure can fracture component leads (even if the leads do not actually break).
- To protect PBAs against physical damage and damage due to static discharge, always wrap them in an anti-static package and place them in the protective packaging that is provided with the new item.

Customer Responsibilities

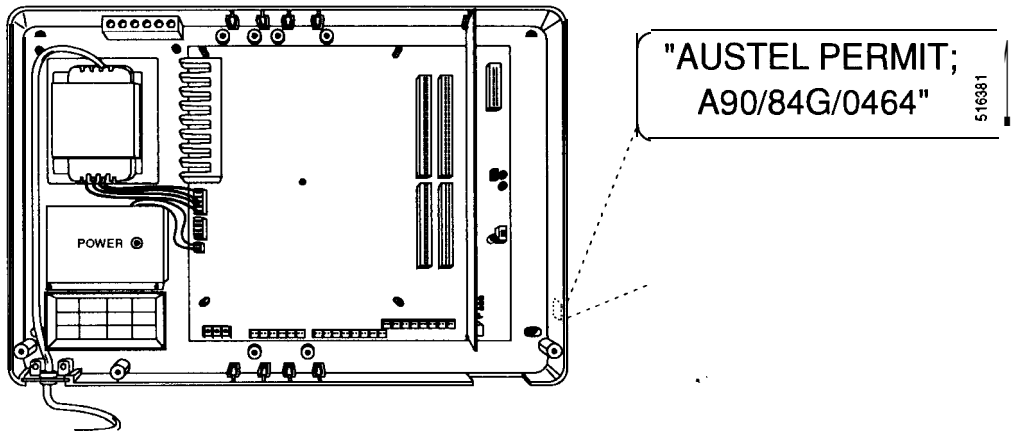
The customer is responsible for providing:

- Satisfactory lighting for installation and maintenance.
- A single phase, correctly earthed, 220-250V, 10 amp, 50 Hz, AC General-purpose Power Outlet (GPO) within one metre of the Main Equipment. The outlet must be easily accessible and kept clear of obstructions.

Note: A separately fused GPO is recommended.

AUSTEL Permit Label

Every Telecom Commander D32 Main Equipment has an AUSTEL Permit Label attached on the right hand side of the cabinet, near the bottom comer. Any request to install equipment that does not have the Permit Label must be referred to local management for investigation.



AUSTEL Permit Label

[IL10]

Installation Checklist

Use the following check list and the detailed procedures that follow to ensure that the Telecom Commander D32 is installed correctly. Check that the equipment supplied is as listed on the System Order Form.

1 Unpack the equipment and check for any damage incurred during transit
2 Mount the main equipment on the wall
3 Connect the mains power supply (Do not turn on)
4 Install the RAM Battery on the CPU
5 Install any expansion boards
6 Install the Battery Charger/Ring Generator board if required
7 Connect Station cabling
8 Connect Exchange Lines
9 Connect Powerfail telephones
10 Connect any ancillary cabling (MOH., External Paging etc.)
11 Connect External Battery Back-Up if required
12 Switch on
13 Test station cabling
14 Install stations and test
15 Program the customer data
16 Final test of system and features
17 Complete customer records

System Hardware

Board Code	Description	Maximum Quantity
MB408-D-A	**408 Main Board** The central board in the system which provides the connections for all other boards and ancillary cabling. This board contains interface circuitry for 4 exchange lines and 8 keystations. The first two exchange lines are switched in the event of a power failure.	1 (see note 1)
CPU-D-C	**Central Processor Unit** Performs the processing and control functions required by the system. It provides the alarm indicators, RAM backup battery for storing customer data and the connector for the PC Programming Interface.	1 (see note 1)
EB208-D-A	**208 Expansion Board** Provides the interface circuitry for two exchange lines and 8 keystations. The first Exchange Line is switched in the event of a power failure.	2 (see note 2)
EB204-D-A	**204 Expansion Board** Provides the interface circuitry for two exchange lines and 4 single line telephones. The first Exchange Line is switched in the event of a power failure.	2 (see note 2)
EBOOCD-A	**004 Expansion Board** Provides the interface circuitry for 4 single line telephones.	2 (see note 2)
EBIBR-D-A	**ISDN Expansion Board** Provides the interface circuitry for the connection of 2 Microlinks.	1 (see notes 2 and 3)
BCRGB-D-A	**Battery Charger/Ring Generator Board** Provides the battery charger circuitry for a System Backup Battery and a Ring Generator Unit for all SLTs connected to the system.	1 (see note 4)
BCB-D-A	**Battery Charger Board** Provides the battery charger circuitry for a System Backup Battery.	1 (see note 4)
BC-D-A	**Battery Cabinet** Wall mounted cabinet, used to house a set of Medium Backup Batteries (BBUM-D-A)	1
BBUM-D-A	**Medium Backup Batteries**	1

Notes:
1. These items are part of the Basic Unit.
2. Any mix of these boards may be used to a maximum of 2.
3. Only one of these boards may be installed in the system and must be located in slot 2.
4. Either one Battery Charger/Ring Generator Board **or** one Battery Charger Board only may be installed in the system.

Installation Procedures

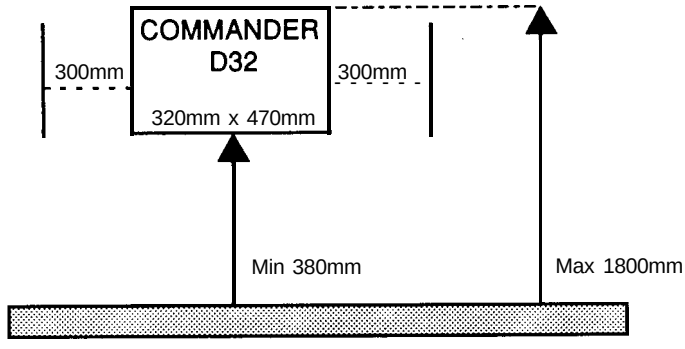
System Order Forms

Ensure that the supplied equipment is as listed on the System Order Forms. The System Order Forms supplied with the equipment will be the most current and will directly reflect the programming required.

Note: It is essential that any programming changes made during installation are recorded on the System Order Form programming sheets.

Main Equipment

The Commander D32 cabinet must be wall mounted using the four screws provided with the system. The cabinet contains the 408 Main Board into which is plugged the CPU Board. Beside the Main Board is the transformer for the Power Supply.



Main Equipment Dimensions

[IL11]

When choosing a site for the Main Equipment, ensure that enough surrounding space is allowed for maintenance activities.
The requirements are:

- Not less than 300mm clear wall space on both sides of the Main Equipment.
- Not less than one metre of clear floor space in front of the Main Equipment.
- Suitable access for exchange and station cabling.
- The Main Equipment should be mounted at least 380mm and not more than 1800mm from the floor.

System Earthing

Three terminals are provided for the earthing of the Commander D32. These terminals are located on the lower left hand side of the 408 Main Board.

They are designated as follows:

⏚
0 VOLT
TRC

The following connections will normally be pre-fitted.

1. The earth wire (Green/Yellow) of the three core mains lead must be connected to the ⏚ terminal and with the lead plugged into a 240V GPO. This will provide the system surge protection.
2. The ⏚ and 0 VOLT terminals must be strapped together with a black wire.

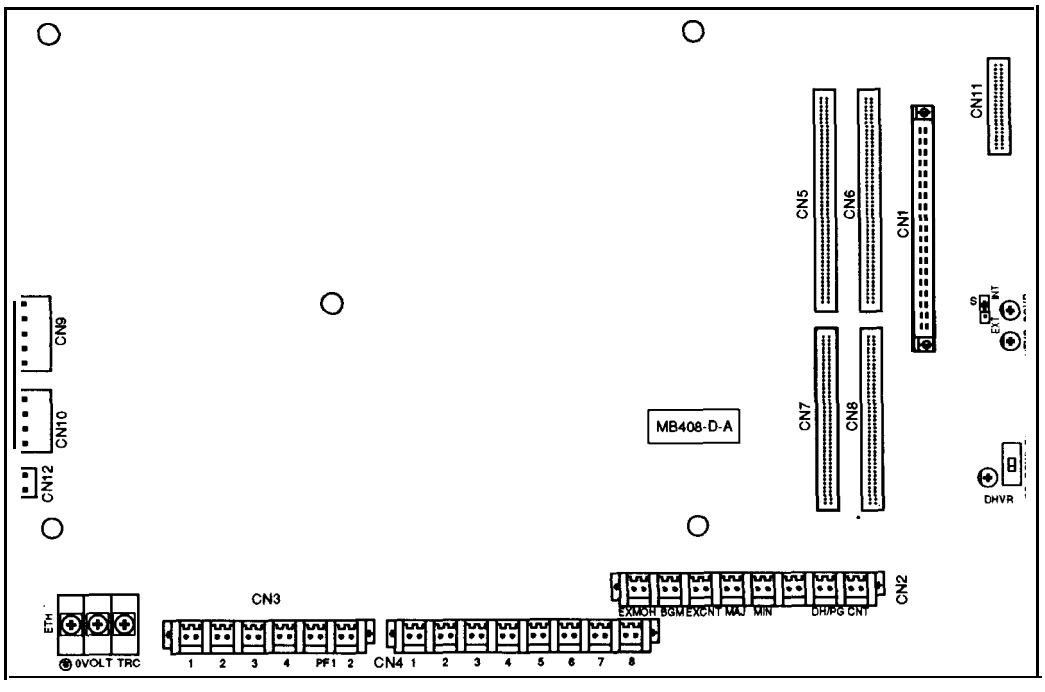
   Terminal TRC is not used.

Surge protection for the Expansion Boards is via the metal threaded standoffs on which the boards are mounted. Therefore it is essential that all these standoffs are in place before exchange lines are connected.

WARNINGS:

1. The equipment must be protected from possible surges of current down connected exchange lines. This must be done in one or both of the following ways:
   - Plug the mains lead into the Power Outlet (GPO), ensuring that the outlet is switched off, before any exchange lines are connected.
   - Isolate the exchange lines from the system, either at a distribution frame or by unplugging the DDK connectors.
2. The Commander D32 is connected to Protective Earth via the power lead.
3. The Telecommunications Reference Conductor (TRC) must not be used.

408 Main Board

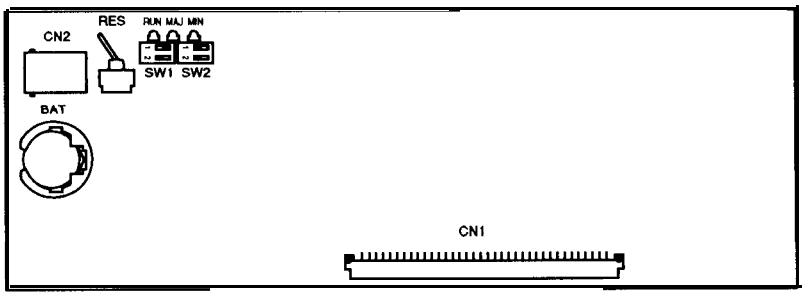


408 Main Board - Component Location
[IL12]

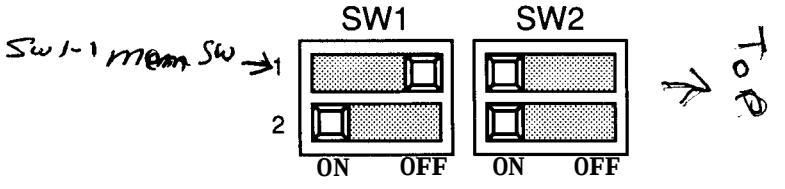
Component Designation	Use
CN1	CPU
CN2	Ancillary cabling
CN3	Exchange lines ports 1 to 4, Powerfail telephones 1 and 2
CN4	Keystation ports 1 to 8
CNS / CN7	Ribbon cable connector to first Expansion Board
CN6 /CN8	Ribbon cable connector to second Expansion Board
CN9	Power supply transformer
CN10	Battery Charger/Ring Generator Board
CN11	-Reserved for future use—
CN12	Power "ON" led
DSW1	Selects between Door Station (DH) and External Paging (PG) device
DHVR	Sets the output level for the Door Station or External Paging Device
S	Selects between Internal or External Music Source
HTVR	Sets the volume level for Music on Hold
BGVR	Sets the volume level for Background Music
ETH	Protective Earth

CPU Board

The CPU Board contains the system software and main processor and plugs directly into the 408 Main Board. The CPU Board is supplied with the system, already mounted.



CPU Board - Component Location [IL13]

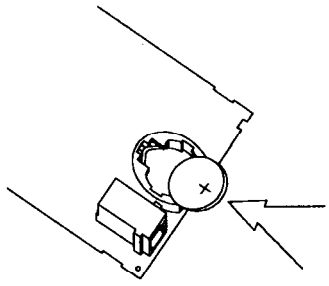
Component Designation	Use
CN1	Provides connection to the 408 Main Board
CN2	For future use
RES	This switch will reset the main processor and re-initialise the system
RUN	This LED will flash slowly to indicate the processor is running normally
MAJ	This LED is lit when a major alarm is activated
MIN	This LED is lit when a minor alarm is activated
BAT	The RAM battery provides power to store customer data during periods when the power is off
SW1 and SW2 Not used	Two banks of two DIP switches. The normal position for these switches is shown below. 

Note:

1. SW1-1 must be left in the off position. Otherwise all customer data will be lost in the event of a power interruption or a manual system reset.
2. For a COLD start, switch SW1-1 must be in the ON position.
3. For a HOT start, switch SW1-1 must be in the OFF position.

RAM Battery

The customer data is stored in Random Access Memory (RAM) located on the CPU board. It is protected against power interruption by a battery that must be fitted into its location on the CPU board. The battery is supplied with the system.



RAM Battery Installation [IL14]

Battery Charger Board.

If an External Battery Back up is to be provided then a Battery Charger Board must be fitted. Supplied with the board are the following items:

1 x Mounting Plate

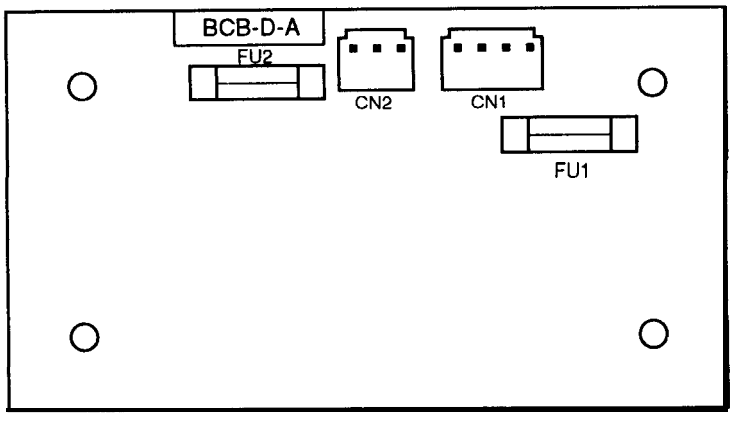
3 x Fixing Screws

4 x plastic PCB Stand Offs

1 x 4 wire Link Cable

To install the Battery Charger Board

- Insert the PCB standoffs into the mounting plate
- Locate and secure the mounting plate
- Fit the Battery Charger Board onto the PCB standoffs
- Fit the 4 wire link cable onto connector CN1. The other end is connected to CN10 on the 408 Main Board and supplies the power connection to the board.

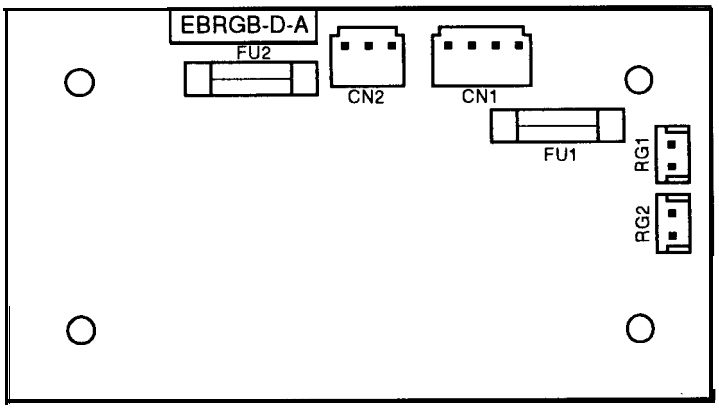


Battery Charger Board - Component Location [IL15]

Component Designation	Use
CN1	4 Wire Link cable connector to 408 Main Board (CN10)
CN2	External Batteries
FU1 <and FU2	2 x 2 Amp, fast blow fuses in Backup Battery leads

Battery Charger/ Ring Generator Board

If Single Line Telephones are included in the system then a Battery Charger/Ring Generator Board must be fitted in place of the Battery Charger Board. Installation is the same as for the Battery Charger Board, plus the connection of a two wire link cable (supplied with the Board) to each analogue (204 and/or 004) Expansion Board fitted.

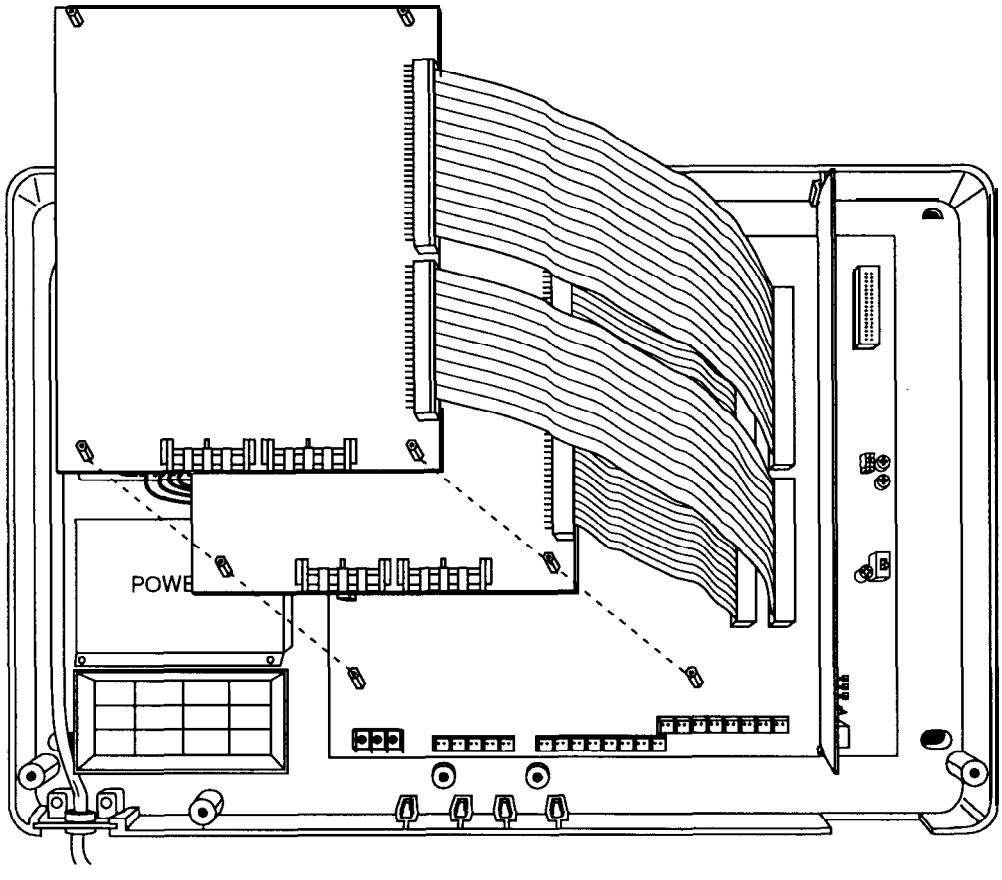


Battery Charger/ Ring Generator Board - Component Location [IL16]

Component Designation	Use
CN1	4 Wire Link cable connector to 408 Main Board (CN10).
CN2	External Batteries
RG1	Ringing to Analogue Expansion Board 1
RG2	Ringing to Analogue Expansion Board 2
FU1 and FU2	2 x 2 Amp, fast blow fuses in Backup Battery leads

Expansion Boards

The Main Equipment cabinet has space for two Expansion Boards. These are mounted on top of each other over the 408 Main board. Any of the D32 Expansion Boards, except the ISDN Board, may be located in either position. The ISDN Board must be uppermost and connected to CN6 and CN8.



Main Equipment with two Expansion Boards fitted [IL17]

Each Expansion Board is supplied with the following:

1 x 50 way ribbon cable

1 x 64 way ribbon cable

5 x threaded stand offs

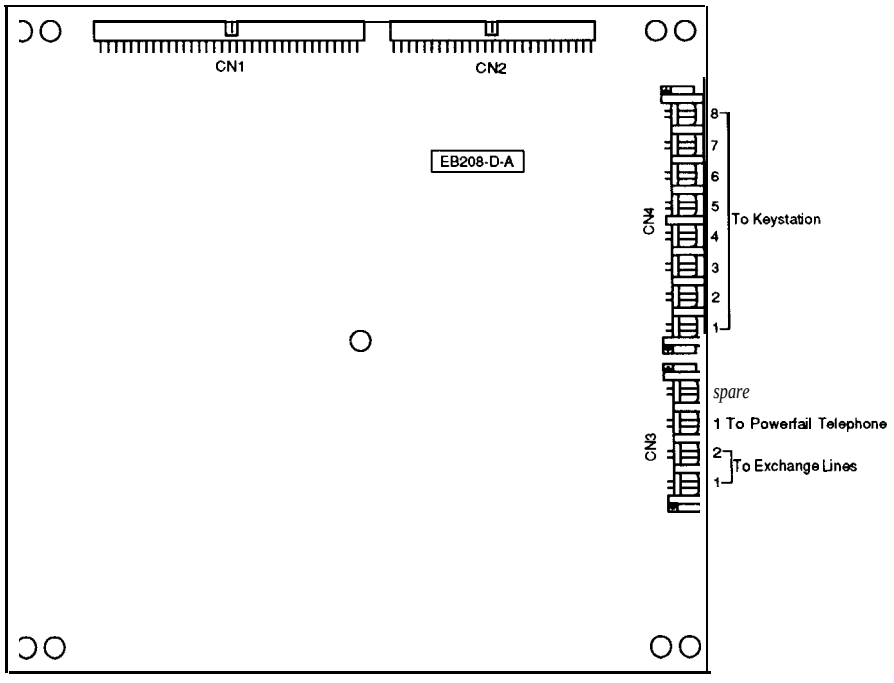
To install the first Expansion Board:

- Insert the 64 way ribbon cable into connector CN5 on the 408 Main board. Insert the other end of the ribbon cable into connector CN1 on the Expansion Board.
- Insert the 50 way ribbon cable into connector CN7 on the 408 Main Board. Insert the other end of the ribbon cable into connector CN2 on the Expansion Board.
- Locate the Expansion Board on top of the 5 threaded standoffs securing the 408 Main Board.
- Screw in the 5 threaded standoffs, supplied with the Expansion Board, to secure the board into position.

To add a second Expansion Board, insert the ribbon cables into connectors CN6 and CN8 on the 408 Main Board and proceed as above.

Note: When an expansion board is added to the system a cold start must be performed for the CPU to recognise the board. The whole system must then be reprogrammed.
At default the system will configure empty station slots as keystations. Therefore, when adding a 208 Board it may not be necessary to cold start the system.

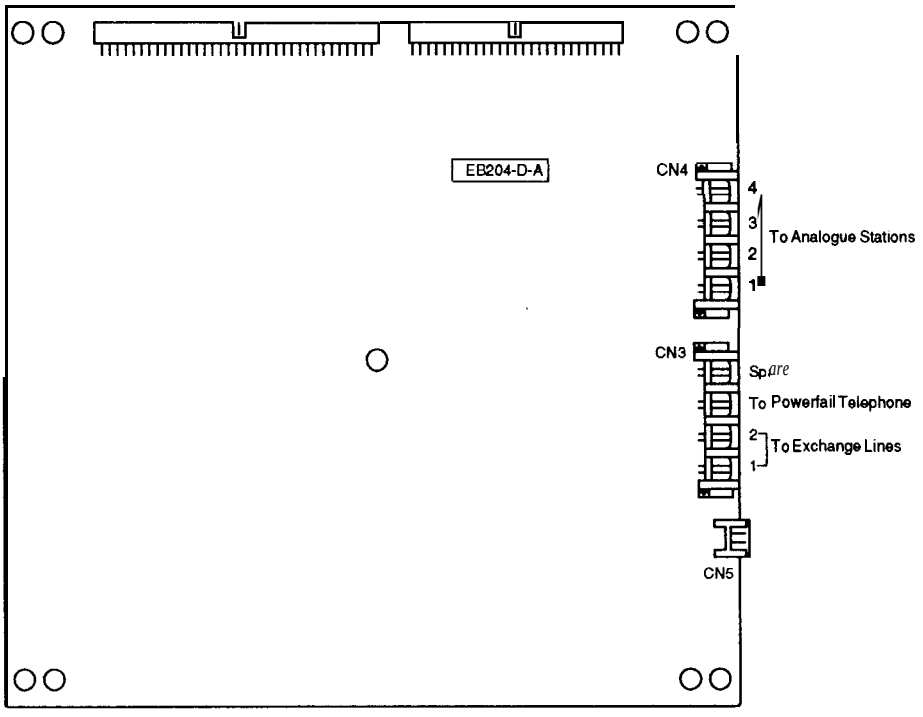
208 Expansion Board



208 Expansion Board - Component Location
[IL18]

Component Designation	Use
CN1 and CN2	Ribbon cable connector to 408 Main Board
CN3	Exchange lines ports 1 and 2, Powerfail telephone 1
CN4	Keystation ports 1 to 8

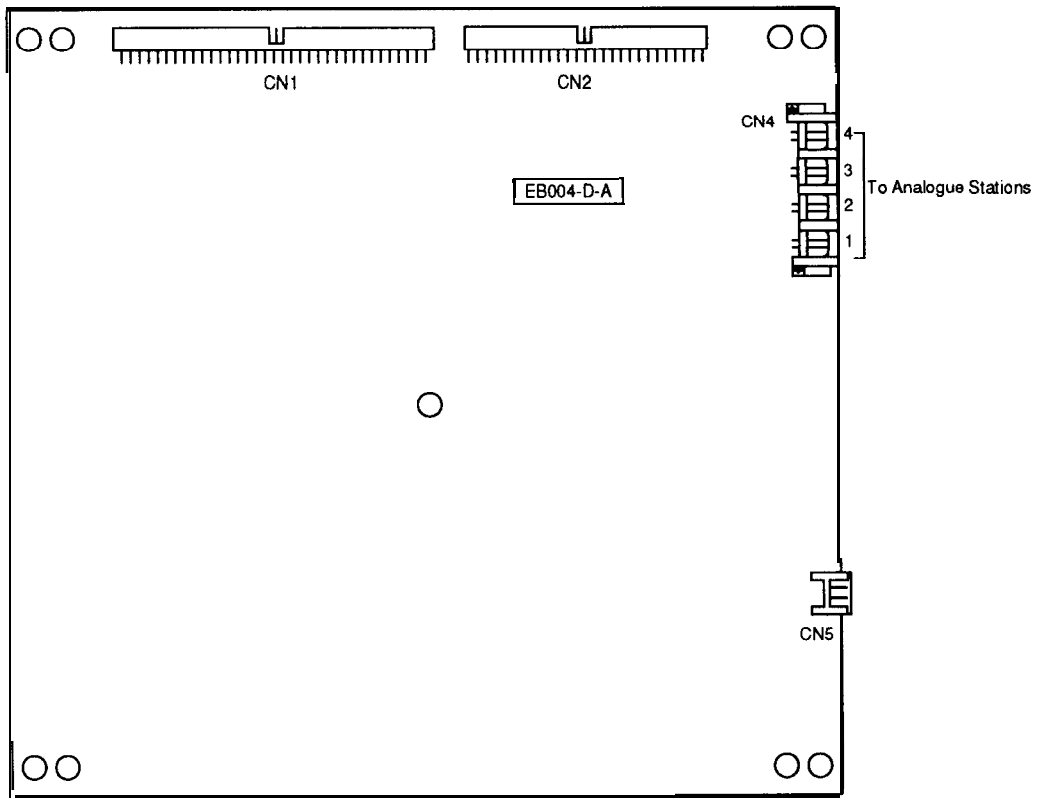
204 Expansion Board



204 Expansion Board - Component Location
[IL19]

Component Designation	Use
CN1 and CN2	Ribbon cable connector to 408 Main Board
CN3	Exchange lines ports 1 and 2, Powerfail telephones 1
CN4	Analogue station ports 1 to 4
CN5	Ring Generator Board

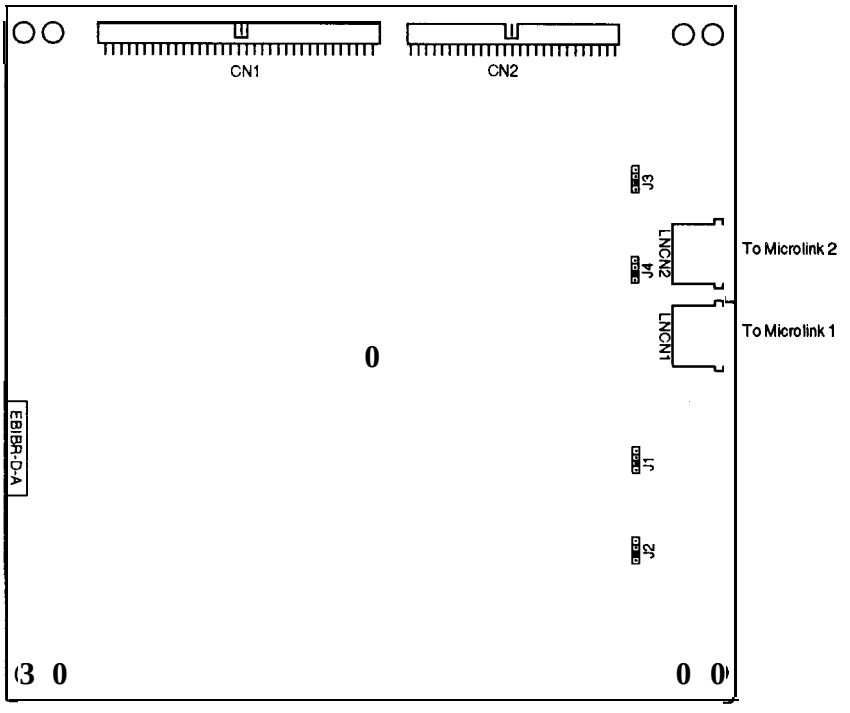
004 Expansion Board



004 Expansion Board - Component Location
[IL20]

Component Designation	Use
CN1 and CN2	Ribbon cable connector to 408 Main Board
CN4	Analogue station ports 1 to 4
CN5	Ring Generator Board

ISDN Expansion Board



ISDN Board - Component Location
[IL21]

Component Designation	Use
CN1 and CN2	Ribbon cable connector to 408 Main Board
LNCN 1	Connector for Microlink 1
LNCN2	Connector for Microlink 2

Note: CN1 and CN2 must only be connected to CN6 and CN8 on the 408 Main Board, ie. Slot 2.

Station Ports

SLOT 0	01	02	03	04	05	06	**07**	**08**
SLOT 1	**09**	10	11	12	13	14	15	16
SLOT 2	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**

Exchange Line Ports

SLOT 0	01	02	03	04
SLOT 1	05	06		
SLOT 2	07	08	09	10

System Cabling

DDK Connectors

All the cable connections for the Commander D32 are made directly to the 408 Main Board and the Expansion Boards using DDK connectors. Sufficient connectors are supplied with the system and expansion boards.

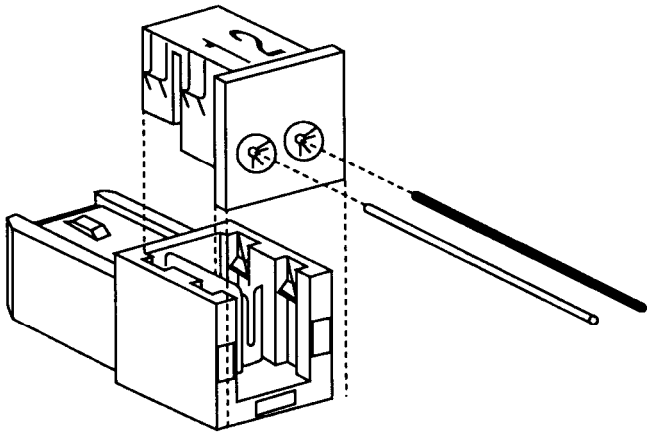
To fit the DDK connectors:-

1. Strip the cable sheath, allowing a minimum of 5 centimetres of insulated conductor.
2. Insert the conductors into the two round holes marked “1” and “2” at the rear of the plug.

Hole 1	White wire
Hole 2	Coloured wire

3 Press the section of the plug where the conductors are inserted into the body until it is flush with the edges.

Note: The DDK Connectors are the insulation-displacement type, so there is no need to strip the insulation on the conductors being fitted.



DDK Connector
[IL 22]

Exchange Lines

Each exchange line requires 2 wires from the main equipment to the nearest distribution frame. Exchange lines are terminated on DDK connectors and plugged directly into the exchange line sockets on the 408 main board or expansion boards (208,204).

Note: Surge protection must be provided before exchange lines are connected to the system (see System Earthing).

Keystations

Each keystation requires 2 wires from the Main Equipment to the station socket. Usual installation cabling practices should be adhered to, using 2 pair, 0.5mm wire cable. The maximum distance permitted between the keystation and the main equipment is 600m (400m if 0.4mm cable is used).

The keystation cabling is terminated at the main equipment with a DDK connector and plugged directly into the keystation sockets on the 408 Main Board or the 208 Expansion Board.

Main Equipment 605/610 Socket		Modular Socket	Colour
Pin 2	Pin 6	Pin 4	Blue
Pin 1	Pin 2	Pin 3	White

Table 1 - Station Cabling Terminations

Single Line (Analogue) Telephones

The system caters for the connection of Single Line Telephones (standard analogue 2W telephones such as the Telecom *Touchfone 200™*). Both DTMF and decadic single line telephones can be used.
These Single line Telephones are cabled in the same way as keystations (see Table 1) and are plugged directly into the station sockets on the analogue Expansion Boards (204, 004).

Note: The maximum allowed distance between a Single Line Telephone and the Main Equipment is 4.2km. However, outside extensions (ODXs) connected via network cabling are **NOT** permitted due to the lack of a network isolation barrier on the analogue Expansion Boards (204 and 004). The need for a network isolation barrier between the Commander D and a network connected ODX is an AUSTEL safety requirement.

Powerfail Telephones

If there is a mains power failure and system backup batteries have not been provided or are discharged, a maximum of four predetermined exchange lines will be switched to designated, powerfail Single Line Telephones (one exchange line per SLT). Incoming and outgoing calls will then be able to be made from the Single Line Telephone but no system facilities will be available.
The Powerfail SLTs are additional to any Single Line Telephones used as Commander D extensions. and are only operational under powerfail conditions.
Not all exchange lines are switched in the event of a power failure. The exchange lines that are switched are shown in the following table.

Board	Exchange Line
Main Board	land2
208 Expansion Board	1
204 Expansion Board	1

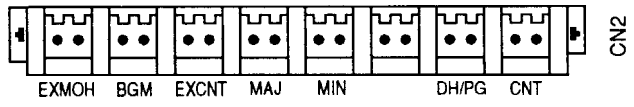
The power-fail telephones require two wires and are terminated at the main equipment with DDK connectors. The connectors are then plugged into the powerfail telephone sockets on each board.

Ancillary Cabling

All the ancillary cabling is connected to the system via the 408 Main Board connector CN2.

The connections are:

EXMOH	External Music on Hold
BGM	Background Music
EXCNT	Control relay for external music source
MAJ	Major alarm (External indication)
MIN	Minor alarm (External indication)
DH/PG	Door Station/External Paging Device
CNT	Door Lock/Paging device control relay



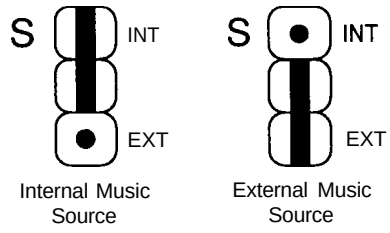
Main Board Connector CN2
[IL23]

Music on Hold (MOH)

The Telecom Commander D32 has an internal MOH facility to provide music on a line when it is placed on Hold . Two different internal MOH melodies are available (see Command 0303), however an external music source can be connected to the system and used instead of the internal melodies.

Connect 2 wires of a 4 wire cable from the external music source via a 611 socket and Line Isolation Unit (LIU), and terminate with a DDK connector into EXMOH.

A moveable link, on a connector marked "S", is used to select between internal or external music sources. The connector is located on the right hand side of the 408 Main Board (see [IL 24]). The moveable link will sit across two pins depending on which music source is required.



Music Source Link Settings
[IL 24]

Background Music (BGM)

On an idle station, you can listen to BGM by pressing the [#] key. A music source must be connected to BGM. The method of connection is the same as for MOH.

Note: If the one music source is required for BGM and MOH then the inputs may be connected together at the 611 Socket.

Adjacent to the moveable link are 2 potentiometers ('HTVR' and 'BGVR') that control the volume of the Music on Hold and Background Music respectively.

Relay Control for External Music Source (EXCNT)

Internally connected to a set of normally open contacts, connector "EXCNT" is used to control the external music source. When a call is placed on hold, the contacts close, enabling the external device to be operated. When the call is taken off hold the contacts open.

Note: Connection to the external device must be via an AUSTEL approved Isolation Unit.

Alarm Output (MAJ/MIN)

An external indicator may be connected to the MAJ and MIN connectors (CN2-4/5) and will operate when either a Major or Minor alarm is activated. The maximum current drain is 10 mA at 5V.

Door Station/External Paging

The Commander D32 can support either 1 Door Station or 1 External Paging Device. This is done by re-assigning the function of the fourth exchange line on the 408 Main Board.

Door Station

2 wires are required from the Main Equipment to the Door Station. When terminating the cable, take particular care to ensure that the polarity of the wires is correct. The Door Station is polarity conscious and will not operate if it is terminated incorrectly.

WARNING
Do not connect the Door Station to a digital or analogue Station Port. This may damage the Door Station circuitry.

Main Equipment	Wire Designation	Wire Colour	Door Station Terminal
Pin 1	+ ve	Red	R
Pin2	-ve	Black	C

At the Main Equipment the cable is terminated with a DDK connector which plugs into connector DH/PG on the 408 Main Board. Switch DSW1 on this board is used to select between the Door Station and External Paging facility and must be set in the correct position (see [IL]408 diagram). Adjacent to the DSW 1 switch is a potentiometer (DHVR) which controls the volume out to the Door Station.

The following programming commands must be used to provide the Door Station functions.

0129	Sets the mode of operation for the fourth exchange line
1301	Defines which stations will ring when the Door Station is activated

Connector CNT provides the facility to control an electric door lock. When in conversation with the Door Station, pressing the [Recall] key will operate a normally open contact for the period of time that the key is held.

External Paging

The amplifier is connected via a Line Isolation Unit (LIU) and 605/611 plug and socket to the main equipment. The cable is terminated with a DDK connector which plugs into connector DH/PG on the 408 Main Board. Switch DSW1 on this board is used to select between the Door Station and External Paging facility and must be set in the correct position (see [IL] 408 diagram). Adjacent to the DSW1 switch is a potentiometer (DHVR) which controls the level of signal sent to the paging device.

The following programming commands are used to define the mode of operation for the external paging device:

0129	Sets the mode of operation for the fourth exchange line
1403	Defines the control data for external paging
1404	Defines the exchange lines that will ring over the speakers

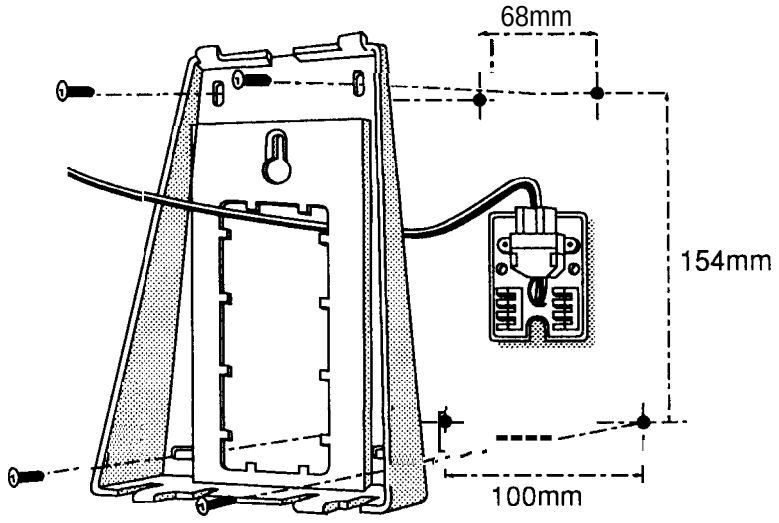
Connector CNT provides a control facility for the external paging device. When a call is made to the paging device an internal pair of normally open contacts connected to CNT will be operated for the duration of the call.

Mounting User Equipment

Keystations - Wall Mounting

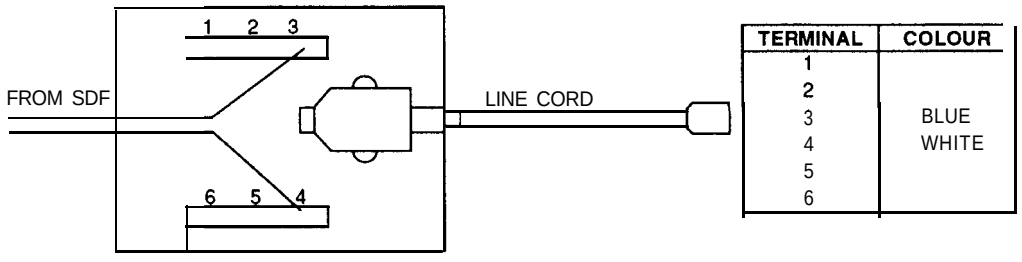
To mount a keystation on the wall:-

- Obtain a Wall Mounting Kit (WMK-E 546/21) and Modular Socket (MS-E-SMK 546/23 or MS-E-SMA 546124).
- Remove the centre cut-out of the Wall Mounting Bracket.
- Remove and discard the Modular Socket cover and fix the socket to the wall.
- Place the Wall Mounting Bracket over the Modular Socket and fasten to the wall using four screws.



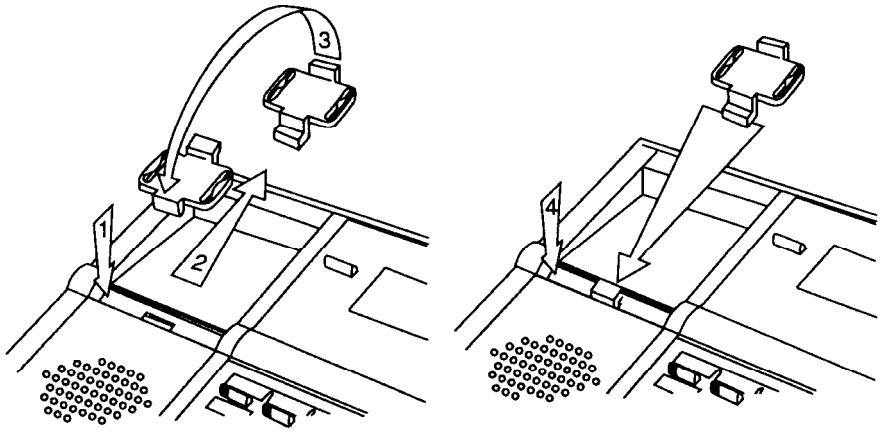
Keystation Wall Mounting Bracket
[IL25]

- Terminate the keystation wiring on the terminal block.



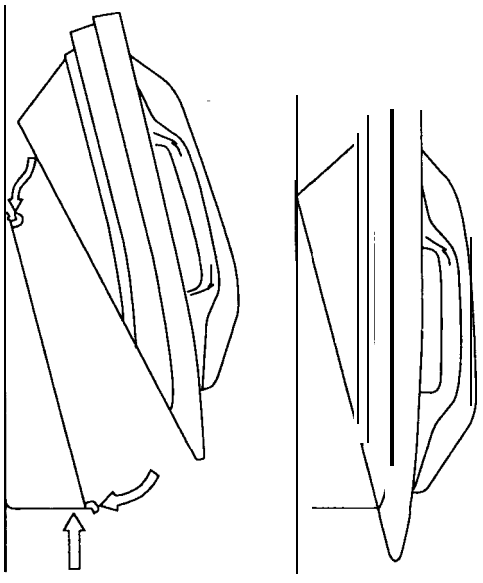
Wall Mounting Connection
[IL26]

- Hold down the switch-hook and slide out the handset rest. Rotate and re-insert the handset rest.



Installing the Handset Rest
[IL27]

- Connect the short line cord between the socket and the top of the keystation.
- Clip the keystation onto the Wall Mounting Bracket.



Wall mounting the keystation
[IL28]

Data Communications Interface

Serial data communication is possible through a Data Communications Interface (DCI) connected to the system as a stand alone unit or as an integral part of a keystation. A DCI may be fitted to any Executive or Premium Keystation.

To fit a DCI into a keystation:-

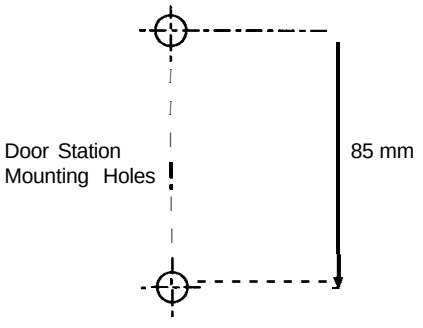
- Obtain a keystation DCI kit (DCIK-D).
- Remove the base of the keystation.
- Connect the ribbon cable, supplied with the DCI, into the connector marked "CN1" on the Data Communications Interface (DCI) PBA and plug the other end of this cable into the connector marked "DCICN" on the keystation motherboard.
- Fit the new base to the keystation.
- Connect the data transmission equipment to the D25 connector of the DCI. Select the required serial transmission characteristics. (Command 1201, 1202 and 1207) Remove and replace the line cord to initialise the DCI.

Note: Equipment connected to the DCI should be AUSTEL approved.

Door Station (DS-BN)

To mount a Door Station:-

* Obtain a Commander BN Door Station. (Serial/Item No. 338/860)
- Remove the base of the Door Station.
- Attach the base to the wall using the two screws provided. Do not over-tighten the screws.



- Pass the cable through the base using the cable entry at the bottom right hand comer of the base.
- Terminate the cable in the Door Station.
- Attach the cover to the base of the Door Station.

System Initialisation

When the system is turned on for the first time the default program will be loaded into the system memory. With the default program loaded, the system is fully functional so that no further programming is necessary to be able to test the system. An overview of the default program is shown below.

Station Ports 1 to 24	Dial numbers 101 to 124
Keystation DSS keys 1 to 8	Assigned to station ports 1 to 8
Keystation Line Keys 1 to 8	Trunk Ports 1 to 8
Keystation Line Keys 9 to 16	9 Message Wait 10 Call Back 11 Divert 12 Conference 13 Call Pick Up 14 Internal Page Group 15 Internal Page All 16 Follow Me
Keystation Line Keys 17 to 32	Not Defined
Station Restriction Class	All stations set to 1
Station Class of Service	All stations set to 9
Exchange Line Ports 1 to 8	All in Ring Group 1 Station Port 1 only enabled for ringing. All in Trunk Access Map 1, Access Code 7 All in Trunk Route 1 All set to DTMF Dialling
Operation Mode	Sunday all day Night 2 Mode Mon to Fri Midnight to 7am Night 2 Mode 7am to 7pm Day Mode 7pm to midnight Night 1 Mode Saturday Midnight to 7am Night 2 Mode 7am to lpm Day Mode lpm to midnight Night 1 Mode
Analogue stations	Set to Decadic

When the power is turned on the main processor in the system will go through an initialisation process. This will take approximately 15 seconds to complete. During this time any display keystations that are plugged in, will show the message "System Start-Up in Progress".

On the CPU Board the three LEDs will glow continuously until the process is complete, then, if all is correct, the three LEDs will turn off and the "RUN" LED will flash slowly to indicate that the processor is running normally.
All stations are unusable during this period. When the initialising is complete keystation displays will revert to the idle state, ie the time and date on the top row and the station number and name on the second row.

Station Installation

Before plugging in each station, the line voltage should be measured at the station socket. The connections are not polarity conscious and should measure 48V DC. When each Executive or Premium Keystation is connected, their displays will show "System Start-Up in Progress" for approximately 1 second. The time, date and station identity will then be displayed.

Digital Station Self Test

Digital stations CM be tested using the Self Test facility. The test is in two parts - an automatic test followed by a manual test:

- Start test — Press the [*] key while plugging in line cord
- Stop test — Press the [Call 1] key followed by digit 0

Automatic Test

1. The following message is displayed for three seconds:

```
Self Test in Progress
VRx.x[DD Month YYYY]
```

(DD Month YYYY) = The date of the software release

2. All dots in the LCD are turned ON for 3 seconds.
3. Digits 0 to 3 are shifted across each column at 0.1 seconds per column.
4. The red LEDs on all line keys are turned ON for 1.3 seconds.
5. The red LEDs are turned OFF on the line keys, and the green LEDs turned ON for 1.3 seconds.
6. The red LEDs of all function keys and the MW LED are turned ON for 1.3 seconds.
7. The red LEDs of all DSS keys (not Premium Keystations) are turned ON for 1.3 seconds.
8. The message "Manual Test" is displayed on the screen.

Manual Test

Key Matrix and LED Test

To start this test, press the [Call 1] key followed by [1]. The following message will be displayed:

```
Key Matrix/LED Test
```

Whenever a key is pressed, the logical name for it will be displayed and the key touch tone will sound. This tone has a duration of 50 ms and a frequency of 580 Hz.

The key LEDs operate as follows:

1 st operation	Red LED
2nd operation	Green LED
3rd operation	LED OFF

The message "OFF HOOK" is displayed by lifting the HANDSET and "ON HOOK" is displayed when the handset is replaced.

To exit this test and return to the "Manual Test" display, press the [Call 1] key followed by [*].

Test Tone

To start this test, press the [Call 1] key followed by [2]. The following message will be displayed:

```
Test Tone [1KHz]
```

A continuous 1 KHz tone will be sent to the speaker. This tone is muted when the handset is taken off hook.

To exit the test, press any key.

Note: To exit the station self test, ensure that the message "Manual Test" is displayed on the station's display. If this is not displayed, press the [Call 1] key followed by [*]. Then press the [Call 1] key followed by digit [0].

Programming Customer Data

Before any changes are made to the programming, the CPU Board must be prepared to store customer data. If not, when the power is turned off any changes to the default program will be lost.

1. Check that the RAM battery is in place
2. Set the DIP switch SW1-1 to the off position. Refer to *CPU Board* (This Chapter)

The system can now be programmed according to the Programming Sheets. Any alterations to this programming must be recorded on the Programming Sheets. The installer should then give an updated copy of the Programming Sheets to the System Administrator for inclusion in the System Administration Manual.

Chapter Three
System Programming

Chapter Three
System Programming
Table of Contents

Chapter Three
System Programming

Introduction

This chapter describes the commands available to control and customise the operation of the Telecom Commander D32.

The first part describes the command groups, the keystations required for programming and how to access the programming mode. The second part describes the commands in detail.

Note: A password is required to access the programming mode. This password may be altered by using one of the commands.

All programming changes must be recorded on the System Order Form Programming Sheets. These sheets are stored in the Main Equipment. The customer's System Administrator will be responsible for holding a set of System Administration forms to record any changes made by the customer.

Abbreviations Used in this Chapter

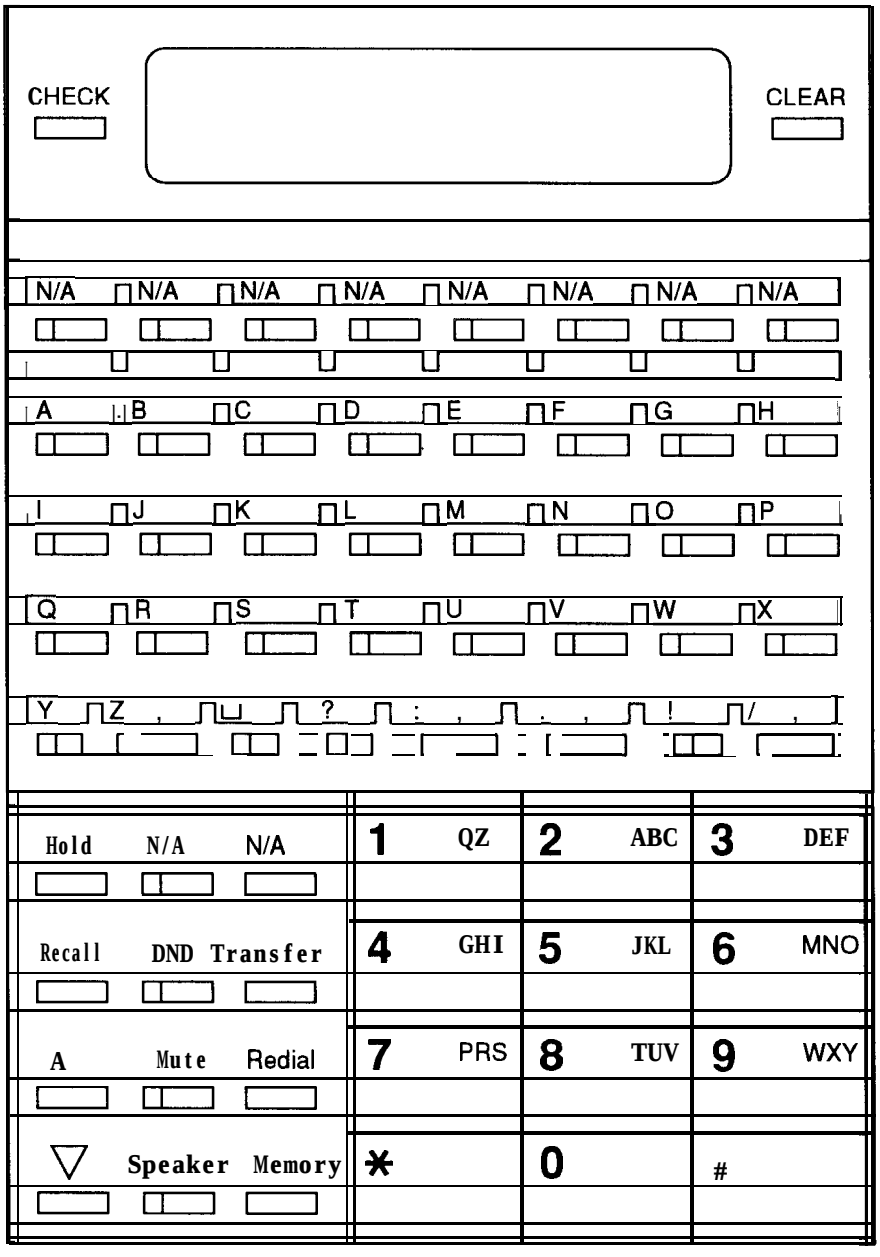
Abbreviations used in this chapter are as follows:

Abbreviation	Meaning
CLS	Class
CODEC	Coder/Decoder
DND	Do Not Disturb
DSS	Direct Station Select
DST	Door Station
DTMF	Dual Tone Multi-Frequency
IRG	Incoming Ring Group
KST	Keystation
NT1	Night 1 Mode
NT2	Night 2 Mode
O/M	Operations and Maintenance
SPK	Speaker
STN	Station
TRK	Trunk (Exchange Line)

General Information

Keystations

Programming **commands** can only be entered from a display keystation with 32 line keys. In the programming mode, the keys are assigned new functions.



N/A = No use in Programming Mode

Key Layout - Programming Mode
[IL29]

Key Functions

Key Name	Used to:
[0] to [9],[*] and [#]	Enter or change numeric data.
Line Keys [L01] to [L32]	Enter or change alphabetic data.
[Hold]	Store data and invoke the next sequential instruction step.
[Δ]	Steps to the next option, or display more data when the data length is over 20 characters.
	Steps back to the previous step.
[Mute]	Delete the last key operation.
[Clear]	Delete all the previous key operations in this step, or, when the data entry prompt "-" is displayed, to clear the data and go to the next step.
[Transfer]	Enter a "pause" in Speed Dial numbers.
[Recall]	Enter a "hookflash" in Speed Dial numbers.
[Memory]	Exit from Command programming mode.
[DND]	This is equivalent to pressing a [Caps Lock] key when entering letters. When the DND lamp is on, letters are entered in the display as capitals, when the DND lamp is off, letters are entered in the display in lower case.

Programming Mode Display

The top line of the display shows the current command, or option of the command. The second line is used for data entry.

Commands

Command Prompts

There are four types of prompt that appear on the second line of the display during programming:

- **>** This is the first level in the programming procedure and requires a Command Code to be entered.
- **?** This is the second level prompt and requires an item to be chosen, to which the programming will apply.
- **-** The dash denotes that the data for this command should now be entered.
- **&** This indicates that there is more information to be displayed. When ready press the [Al key to display the remaining information.

Prompt	Example	Action required
>	Enter Command >	Enter the command number (see note)
?	Port no ?	Enter the item number (see note)
-	Item -01 :0-	Enter the required data for item 01(currently its value is 0) (see note)
&	0448111236&	Indicates that there is more information to be displayed

Note: Use the [A] and [V] keys to scroll through the available options

Access Levels

The system has three access levels for programming and when entering the programming mode you are required to enter a password. The level of password used denotes the level of programming available. The access levels are as follows:

MF Manufacturer level

IN Installer level

SA System Administrator level

This manual describes the commands that can be altered at the Installer or System Administrator level. In the description of each command, the command number is preceded by the level of access required

Command Groups

The system commands consist of 4 digit numbers. The first two digits (00 to 14) show to which group the command belongs. The command groups are:

Command	Command Type
ooxx	Operation and Maintenance
01xx	Hardware
02xx	Password
03xx	System Base Function
04xx	System Base Function
05xx	Service Code
06xx	Speed Dial
07xx	Toll restriction Data
08xx	Day/Night mode
09xx	Trunk Base Function
10xx	Station Base Function
llxx	DSS Station
12xx	Data Terminal
13xx	Door Station
14xx	Paging

Command Summary

The commands used in the different groups are shown below, exactly as displayed by the system after the commandm number is entered.

Operation and Maintenance Commands (00xx)

Command	Use
0003:Date & Time Set	Sets system date and time.
0005:System Info.	Prints out installation data for each port.
0006:Alarm Report	Controls the system alarm print outs.
0008:Alarm Set Up	Determines which alarm lamps light to indicate faults.
0009:Fault To KStn	Assigns keystations to display fault reports.
0010:Fault Report	Views fault reports on keystation display.
0015:Battery Replace	Assigns date for battery replacement.
0016:ISDN Function	Enables ISDN access to system.

Hardware Commands (01xx)

Command	Use
0116:ASB-D-A Initial	Sets the timing data for Analogue Stations
0129: Line #4 Mode	Sets the mode of operation for line 4 of the 408 Main Board.

Password Commands (02xx)

Command	Use
0201:Data Entry Pwd	Defines the user passwords for system programming.
0202:Functions Pwd	Defines the passwords for setting the System clock, Night mode changeover and Access Barring Override.

System Based Functional Commands (03xx, 04xx)

Command	Use
0301:Common Data	Defines system data.
0303:System Option	Defines system optional facilities such as melody type.
0308:PBX Number	Sets the network number for this PBX.
0401:Service	Defines the common service facilities for the system.
0402:Text Messages	Defines the default text messages that can be stored by a station.
0403:SMDR Operation	Defines the SMDR operating data.
0404:Hotline Assign	Assigns Hot-line pairs.
0405:System Timer	Defines the values of the system common timers.

Command	Use
0406:Class Service	Assigns the 128 service facilities into 10 station classes.
0409:ISDN Called No	Defines Call numbers for ISDN calls
0410:ISDN Called IRG	Allocates ISDN Call types to Incoming Ring groups
0411:VM Store Code	Defines the code forwarded to Voicemail.

Service Code Commands (05xx)

Command	Use
0501: Access Codes	Defines the access codes for system facilities.
0502:Stn Dial & Name	Defines the station access numbers and names.
0503:Group Dial & Name	Defines the station group access code and group name.
0504:Door Stn Access	Defines the door station access code.
0505:Trk Access Code	Defines the trunk access code.
0506:Service Code	Defines the dialled data for each service code.
0507:DCG Dial & Name	Defines the DCI group access code and group name.

Speed Dial Commands (06x.x)

Command	Use
0601:SpD Dial & Name	Defines the Speed Dial numbers and names.
0602:Common SpD Area	Defines the Common Speed Dial allocation.

Toll Restriction Data Commands (07xx)

Command	Use
0701:Restriction Set	Defines restriction data for outgoing calls.

Day/Night Mode Commands (08xx)

Command	Use
080 1: Day Pattern	Defmes the operating modes:- Day, Night 1 and Night 2.
0802: Week Schedule	Assigns the operating modes in a weekly schedule.
0803:Year Schedule	Assigns the operating modes in a 12 month schedule to recognise special days such as public holidays.

Trunk Base Function Commands (09xx)

Command	Use
0901 :Trunk Type	Defmes the operating data for each trunk.
0902:I/C Ringer Type	Defines the incoming ring type for each trunk.
0903:Trunk Naming	Assigns a name to each trunk.
0905:Trunk Group	Assigns a trunk to a group.
0906:Route Set	Defines the routing access for trunks.
0907:Route No Assign	Assigns each station to a trunk route.
0908:I/C Ring Group	Assigns stations to an incoming ring group.
0909:Trk Assign IRG	Assigns trunks to incoming ring groups, depending on the operating mode.
0910:Trk Access Map	Defines the trunk access maps.
0911:Stn Trk Acc Map	Defines the trunk access map to be accessed by each station.

Station Base Function Commands (10xx)

Command	Use
1001:Station Type	Defmes the station port hardware.
1002:Restriction Cls	Assigns the restriction class to each station.
1003:Stn Service Cls	Assigns a class of service to each station.
1OOS:Station Group	Assigns the stations to groups.
1006:KStn Program Key	Defines the programmable line key data to each station.
1007:KStn DSS Key	Assigns the DSS key data to each station.
1008:Station Option	Assigns station optional data such as SMDR printout and line seizure.
1009:Break In Level	Defines the level at which each station can break into an established call.
1010:Mngr-Secretary	Assigns manager/secretary pairs.
1012:Prog Key Init.	Initialises each keystation's line keys in accord with the defined trunk access map and station trunk access group.

DSS Station Commands (1 lxx)

Command	Use
1104:Operator Assign	Assigns the operator port.
1105:DSS Port Set	Defines the keystation port to be assigned as a DSS station.

Data Interface Commands (12xx)

Command	Use
1201: DCI Init, Data	Defines the DCI initial data.
1202: DCI Port Type	Defines the DCI port type.
1204: DCI Group	Assigns a group number to each DCI.
1205: Restriction Cls	Defines the restriction class of each DCI.
1206: Hot lime fo DCI	Defines a DCI Hotline pair.
1207: DCI S-Reg Init.	Defmes the initial DCI S-Register data.

Door Station Commands (13x.x

Command	Use
1301: DST Ring Assign	Defines the stations that will ring when a Door Station is activated.

Paging Commands (14xx)

Command	Use
1401: Int Page Group	Defmes the Internal Paging Groups.
1402: Int Pge Gp Name	Assigns the Internal Paging Group names.
1403: Ext-Spk Data	Defines the control data for the external speaker.
1404: Ext-Spk Ringing	Defines the type of ring for the external speaker.

System Access

How to Access Programming Mode

Before attempting to access Programming mode, ensure that you know the current password.

Action	Display
Press the [Speaker] key and dial 643 the programming service code for system data entry.	O/M Program V x-x Password-
Enter the password. (The password is '12345678' until changed by Installer.)	O/M Program V x-x Password-@@@@@@@@
Press the [Hold] key.	
The system will now accept programming commands. Enter the command number and press the [Hold] key to continue.	USER: TELECOM LVL: IN Enter Command >

Note: The version number (x-x) appearing on the screen is the software version currently operating in the system.

How to Exit Programming Mode

Action	Display
To exit the programming mode, press the [HOLD] key repeatedly until Enter Command > is displayed.	USER: TELECOM LVL: IN Enter Command >
Press the [Memory] key. The display returns to the idle mode.	10:30AM TUE 20 AUG

Description of the Telecom Commander D32 Commands

IN 0003

Date and Time Set

This command is used to set the system date and time.

Input Data

Field Name	Description	Input Data
Year	The last two digits of the year	0 to 99: 1900 to 1999.
Month	The number for the month	1 to 12: January to December.
Day	The day of the month	1 to31
Week	The number for the day of the week	0 to 6: 0: Sunday 1: Monday 2: Tuesday, 3: Wednesday, 4: Thursday, 5: Friday, 6: Saturday
Hour	The hour of the day	0 to 23
Minute	The number of minutes after the hour	0 to 59
Second	The number of seconds after the minute	0 to 59

Example

In this example, the system time and date of 10:15:24, Thursday October 14th 1990 is reset to 11:13:00, Wednesday November 17th 1991.

Note: When the last item of variable data has been entered, it is not necessary to continue entering data in the remaining fields. Press the [Hold] key twice after entering the last modified data.

Action	Display
Enter the command number.	
Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command> 0003
Enter the last two digits of the year (91)	0003:Date _ Tim+ Set SetYear: 90-91
Press the [Hold] key.	
Enter the month number (11).	
Press the [Hold] key.	0003:Date _ Time Set Month:10-11

IN 0003

Action	Display
Enter the day of the month (17).	0003:Date _ Tim+ Set Day: 14-17
Press the [Hold] key.	
Enter the day of the week (3).	0003:Date _ Time Set Week[0:Sun]:4-3
Press the [Hold] key.	
Enter the hour (11) Press the [Hold] key.	0003:Date _ Time Set Hour: 18-11
Enter the minutes (13).	0003:Date _ Time Set Minute: 15-13
Press the [Hold] key.	
Enter the seconds (0).	0003:Date _ Time Set Second:24-0
Press the [Hold] key.	
Enter 1.	0003:Date _ Time Set Set?[Yes: 1. No:0] 1
Press the [Hold] key.	
Press the [Hold] key to return to the command prompt.	0003:Date _ Time Set Updated !

Defaults None.

IN 0005

System Information

This command is used to print out a report of the system hardware configuration. Chapter 4 shows the format of the report.

Field Name	Description	Input Data
Print-Port	The number of the DCI port where the printer is connected	0 to 245
Print(YES: 1)	The Enable Code	1: Start printing [HOLD] : abort

Example

This example initiates the System Information report to print out on port 4.

Action	Display
Enter the command number.	USER:TELECOM LVL:IN Enter Command> 0005
Press the [Hold] key.	
Enter the DCI port number (4).	0005:System Info. Print_port:1-4
Press the [Hold] key.	
Enter the enable code (1).	0005:System Info. Print[YES: 13-1
Press the [Hold] key.	
Press the [Hold] key again to return to the command prompt.	0005:System Info. Printed Out

Defaults

The default DCI port is port number 1.

IN 0006

Alarm Report Output

This command controls the system alarm print outs. For an example of the alarm report format and a description of the alarm types refer to Appendix E - Alarm Reports.

Input Data

Field Name	Description	Input Data
Menu No.	Select print options	1: Set print out port 2: Print alarm report history 3: Print newest alarm report 4: Clear all alarm reports 5: Set print out mode

Menu number	Description	Input Data
1	Print port	0: Print port not defined l-24: DCI port number
2	Print All (Yes:l)	1: Print the report [Hold] : abort
3	Print New (Yes:1)	1: Print the report [Hold]: abort
4	All Clear (Yes: 1)	1: Clear the report [Hold] : abort
5	Mode	0: Manual print out 1: Auto print out

Example

In this example DCI port 2 is set for printing and a print out of the lastest alarm is activated.

	Action	Display
	Enter the command number.	USER: TELECOM LVL: IN Enter Command> 0006
	Press the [Hold] key.	
Set Printout Port	Enter the menu number (1).	0006: Alarm Report Menu No ? 1
	Press the [Hold key.	
	Enter the number of the port where the printer is connected (2).	0006: Print Port Set Print Port: l-2
	Press the [Hold] key.	
Print Newest Alarm Report	Enter the menu number (3).	0006: Alarm Report Menu No? 3
	Press the [Hold] key.	
	Enter 1 (yes) to start the printout of the latest alarm report.	0006: Alarm Report Print New[Yes=1]? 1
	Press the [Hold] key.	

Defaults

In menu 1, the printer port is set to 1. In menu 5, the mode is set to 0.

IN 0008

Alarm Set Up

This command defines which alarm lamps light for each alarm number. There are two alarm lamps located on the CPU unit:

Maj = Major

Min = Minor

Input Data

Field Name	Description	Input Data
Alarm No:	Alarm number	loo to 139 Refer to appendix E for a list of the alarm numbers.
Type	Alarm type	0: No lamp lit 1: Maj lamp lit 2: Min lamp lit
Level	Not used	
Print	Print control	0: Not printed 1: Printed

Example

This example selects Alarm number 139 to operate a major alarm lamp and store the information for printing at a later time.

Action	Display
Enter the command number Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 0008
Enter the alarm number (139). Press the [Hold] key.	0008: Alarm Set Up Alarm No: ? 1 3 9
Enter the alarm type (1). Press the [Hold] key.	0008: Alarm Set Up Type: 2-1
Press the [Hold] key. (The level remains unchanged.)	0008: Alarm Set Up Level: 0-
Press the [Hold] key.	0008: Alarm Set Up Print: 0-
Enter the next alarm number and press the [Hold] key to continue in command 0008 OR Press the [Hold] key again to go to the next command	0008: Alarm Set Up Alarm No: ?

IN 0008

Defaults

Alarm Number	Alarm Type	MAJ/MIN LED Lit	Print
100 to 106	2	MIN	1
107, 108	0	none	0
109, 110	1	MAJ	1
111	0	none	0
112 to 130	0	none	1
131 to 133	2	MIN	1
134 to 139	0	none	1

0=No
1=Yes

IN 0009

Keystation Assignment for Fault Report

This command assigns up to four keystations to receive Fault Reports. Each keystation will then display the following alarms, should they appear on the system.

Input Data

Alarm Number	Description
108	Keystation disconnected
127	SMDR buffer full

Field Name	Description	Input Data
Report KStn No	Keystation number	1 to 4
RPT KST _(1-4)	The keystation port number	0: Not assigned 1 to 24

Example

This example sets the keystation on port number 5 as Report Keystation number 1

Action	Display
Enter the command number	USER: TELECOM LVL: I N Enter Command> 0009
Press the [Hold] key.	
Enter the number of the report keystation (1)	0009: Fault to KStn Report KStn No? 1
Press the [Hold] key.	
Enter the port number (5) of the keystation to which the reports are to be directed.	0009: Fault to KStn RPT KST_1: 0 - 5
Press the [Hold] key.	
Enter the number of the next Fault Report keystation and press the [Hold] key to continue in Command 0009 OR Press the [Hold] key again to go to the next command.	0009: Fault toKStn Report KStn No?

Defaults

All port numbers are set to 0, ie. No Fault Report keystations are assigned.

IN 0010

Fault Report View

This command is used to view a fault report on a keystation's display. The system maintains a maximum of fifty Fault Reports. The report format is as follows:

```
0108 01MAR90 1320
                 05
```

Where:	0108	Alarm number
	0 1 MAR90	Date
	1320	Time
	05	Port number

Input Data

Field Name	Description	Input Data
Entry No:	The fault report entry number	1 to 50

Note: Fault Report number 1 is the first report to be recorded.

Example

This example will display Fault Report number 1 on this keystation

Action	Display
Enter the command number Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 00 1 0
Enter the Fault Report entry number to be displayed (1) Press the [Hold] key.	0010: Fault Report Entry No? 1
Fault Report number 1 is now displayed.	0180 01MAR90 1320 05
Press the [Hold] key and enter the next entry number to be displayed and press the [Hold] key to continue in Command 0010 OR Press the [Hold] key again to go to the next command.	OO1O:Fault Report Entry No?

Defaults

None.

IN 0015

Battery Replacement Date

This command allows a date to be entered as a reminder for the replacement of the system backup batteries.

Input Data

Field Name	Description	Input Data
Year	The number of the year.	0 to 99
Month	The number of the month.	1: January to 12: December

Example

This example sets April 1999 as the time to replace the system backup batteries.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 0015
Enter the required year. (99) Press the [Hold] key.	0015: Battery Replace Year: 93-99
Enter the required month of the year (4). Press the [Hold] key.	0015: Battery Replace Month: 1 - 4

Defaults

None.

IN 0016

ISDN Function Control

This command is used to enable/disable the ISDN facility.

Input Data

Field Name	Description	Input Data
Mode	Enable/disable ISDN function	0: Enable 1: Disable

Example

This example will disable the ISDN facility for the system.

Action	Display
Enter the command number Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 0 0 1 6
Enter the ISDN function mode (1) Press the [Hold] key.	0016:ISDN Function Mode: 0-1

Defaults

The ISDN function is enabled.

IN 0116

ASB Initial Data

This command defines the timing parameters for the Analogue Signalling Board.

Input Data

Field Name	Description	Input Data
Dtct-Break	Detection break time	1 to 255 (10ms to 1280ms)
Dtct-Make	Detection make time	1 to 255 (10ms to 1280ms)
Dtct-Ofhk	Detection off-hook time	1 to 255 (10ms to 1280ms)
Ofhk-Guard	After off-hook detection guard time	1 to 255 (10ms to 1280ms)
Max-Break	Maximum break pulse time	1 to 255 (10ms to 1280ms)
Max-Flash	Maximum hook-flash time	1 to 255 (10ms to 1280ms)
Max-Make	Maximum make pulse time	1 to 255 (10ms to 1280ms)
Dial-Guard	After dial detection guard time	1 to 255 (10ms to 1280ms)
Mitt-Ground	Minimum grounding time	1 to 255 (10ms to 1280ms)

Note: The formula for the data input is as follows:

$$N = \frac{(\text{Time in milliseconds} - 5)}{5}$$ where N = the number to be entered.

Example

This example will change the maximum hook-flash time to one second.

Action	Display
Enter the command number Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command> 0116
Press the [Hold] key 5 times.	8116: ASB-D-A Initial Dtct-Break:1-
Enter the maximum hook-flash time (199)	8116: ASB-D-A Initial Max-Flash :36-199
Press the [Hold] key 4 times to go to the next command.	

Defaults

Field Name	Setting	Time
Dtct-Break	1	10ms
Dtct-Make	1	10ms
Dtct-Ofhk	57	290ms
Ofhk-Guard	59	300ms
Max-Break	17	90ms
Max-Flash	36	190ms
Max-Make	19	100ms
Dial-Guard	69	350ms
Min-Ground	19	100ms

IN 0129

Line Four Mode

This command defines the mode of operation for the fourth exchange line on the 408 Main Board.

Note: Switch DSW1 on the 408 Main Board must also be set to select between Door Station and External Paging.
The cable for the Door Station or External Paging is connected to DH/PG on CN2 not to the Line 4 socket on CN4.

Input Data

Field Name	Description	Input Data
Mode	Mode number	0: Exchange line 1: External Paging 2: Door Station

Example

This example sets up the 4th exchange line for use as a Door Station

Action	Display
Enter the command number	USER: TELECOM LVL: IN Enter Command> 0129
Press the [Hold] key.	
Enter the mode number (2)	0129: LINE #4 MODE Mode: 0-2
Press the [Hold] key.	

Defaults

The 4th Line is set as an exchange line.

SA 0201

Password for System Data Entry

This command defines the user password for accessing system programming. The system can have up to 4 users.

Input Data

Field Name	Description	Input Data
User No.	User number	1 to 4
Name	User name	Up to 8 characters
PWD	Password	Up to 8 digits
Level	User level	0: Not used
		1: Manufacturer (MF)
		2: Installer (IN)
		3: System Administrator (SA)

Example

This example sets up password 7654321 for user number 4, using the name "EXAMPLE". The password will give access at the System Administrator level.

Action	Display
Enter the command number	USER: TELECOM LVL: IN Enter Command> 0201
Press the [Hold] key.	
Enter the user number (4)	0201: Data Entry Pwd User No? 4
Press the [Hold] key.	
Enter the user name (EXAMPLE) using the line keys. Press the [Hold] key.	0201: User_4 Name: TELECOM-EXAMPLE
Enter the user password (765432 1)	0201: User_4 PWD: 1234567 -7654321
Press the [Hold] key.	
Enter the user level (3)	0201: User_4 Level: 0-3
Press the [Hold] key.	
Enter the next user number and press the [Hold] key to continue in Command 0201 OR Press the [Hold] key again to go to the next command.	0201: Data Entry Pwd User No?

SA 0201

Defaults

User Number	User Name	User Password	User Level
1	AAL/TT	x x x x x x x x	1 (MF)
2	TELECOM	12345678	2 (IN)
3	CUSTOMER	0000	3 (SA)
4	none	none	none

SA 0202

Password for Functions

This command defines the passwords which will allow station users access to the following program functions.

- Date/Clock
- Night Mode Change
- Access Barring Override
- Reading Exchange Meters

Input Data

Field Name	Description	Input Data
Pwd(Clock)	Password for Date/Clock setup	4 digits
Pwd(Night)	Password for Night Mode Change	4 digits
Pwd(AcB)	Password for Access Barring Override	4 digits
Pwd(REM)	Password for Reading of Exchange Meters	4 digits

Example

This example sets password 1234 for the Date/Clock setup.

Action	Display
Enter the command number Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command> 0202
Enter the password to be used for Date/Clock setup (1234) Press the [Hold] key.	0202: Functions Pwd Pwd[Clock]:0000-1234
Press the [Hold] key three more times to return to the command prompt	

Defaults

All passwords are set to 0000 for all modes.

IN 0301

System Common Operation Data

This command is used to enable or disable System Operation Data.

Input Data

Field Name	Description	Input Data
Item No.	Item Number	1: —Reserved— 2: Network Service 3: —Reserved—
ITEM_(2)	Enable/disable	0: Disabled 1: Enabled

Example

This example enables Network Service.

Action	Display
Enter the command number Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 0301
Enter the item number (2) Press the [Hold] key.	0301: Common Data Item No? 2
Enter the enable code (1) Press the [Hold] key.	0301: Common Data ITEM_02: 0-1
Press the [Hold] key again to return to the command prompt.	

Defaults

Networking is disabled.

IN 0303

System Operational Facilities

This command is used to define optional system facilities.

Input Data

Field Name	Description	Input Data
Item No.	Item Number	1 :Hold Tone type 2: Reserved 3: Reserved
ITEM-(01-03)	Option number	0: Option 1 1: Option 2

Facility	Option
Hold Tone type	0: Type 1 1: Type 2

Example

This example sets type 2 Hold tone for the system.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LUL: IN Enter Command> 0303
Enter the Item Number (1) Press the [Hold] key.	0303: System Option Item No? 1
Enter the option number (1) Press the [Hold] key.	0303:System Option ITEM,01: 0-1
Enter the next item number to continue in this command OR Press the [Hold] key again to return to the command prompt.	0303: System Option Item No?

Defaults

The default setting for the Hold Tone is type 1.

IN 0308

Network PBX Number

This command is used to set the network number of this PBX. This is only required if this D32 is included in a network.

Input Data

Field Name	Description	Input Data
PBX_No	PBX number	0 to 7

Example

This example will set the number of the PBX to 3.

Action	Display
Enter the command number.	USER:TELECOM LVL:IN Enter Command> 0308
Press the [Hold] key.	
Enter the PBX number (3)	0308:Own PBX No. Set PBX_No:0-3
Press the [Hold] key.	

Defaults

None.

IN 0401

System Operation Data

This command is used to set up the common service facilities.

Input Data

Field Name	Description	Input Data
Item No.	Item Number	1 to 15 (see table below)
ITEM_(01-15)	Option number	0: Option 1 1: Option 2

Item Number	Description	Input Data
1	Manual change night mode	0: Off 1: On
2	Auto change night mode	0: Off 1: On
3	No-answer incoming alarm	0: Off 1: On
4	Line Key toggling action	0: Exclusive-Hold 1: Drop off
5	- Reserved-	
6	Pre-selection/One-touch	0: Pre-selection 1: One touch
7	Keystation MIC default	0: MIC off 1: MIC on
8	Incoming ring priority	0: Internal 1: External
9	- Reserved-	
10	Intercom call mode default	0: Voice 1: Signal
11	- Reserved-	
12	Auto answer	0: Off 1: On
13	Auto answer (Ext. incoming)	0: Off 1: On
14	Auto answer (Call back)	0: Off 1: On
15	Auto charge (end of call) ISDI	0: Off 1: On

IN 0401

Example

This example will set the incoming ring priority to Internal.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 0401
Enter the Item Number.(8) Press the [Hold] key.	0401:Service Item No? 8
Enter the Input Data.(O) Press the [Hold] key.	0401: Service I TEM_08:1-0
Enter the next Item Number to continue with this command OR Press the [Hold] key again to return to the command prompt.	0401:Service Item No?

Defaults

Item Number	Description	Default
1	Manual change night mode	1: On
2	Auto change night mode	1: On
3	No-'answer incoming alarm	0: Off
4	Line Key toggling action	1: Drop off
5	- Reserved-	0:
6	Pre-selection/One-touch	1: One touch
7	Keystation MIC default	1: MIC on
8	Incoming ring priority	1: External
9	- Reserved-	0:
10	Intercom call mode default	1: Signal
11	- Reserved-	0:
12	Auto answer (Int. incoming)	1: On
13	Auto answer (Ext. incoming)	1: On
14	Auto answer (Call back)	1: On
15	Auto charge (end of call) ISDN	1: On

SA0402

Text Messages

This command defines the text for the system text messages. A message can be displayed automatically to a calling display keystation from the called station. The system has a maximum of 20 messages, each with up to 32 characters. Message 00 is an individual message per station and is programmed from that station.

Input Data

Field Name	Description	Input Data
Message No.	Message number	1 to 20
MSG_(01-20)	The required text	Up to 32 alphanumeric characters

Note: & indicates that there is more information to be displayed. The [A] key must be pressed to continue.

Example

This example sets system message number 14 to "GONE HOME".

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command > 0402
Enter the message number for editing(14). Press the [Hold] key.	0402: Text Messages Message No? 14
The first 19 characters of the message are displayed with an & at the end. The [A] key must be pressed to display the remaining 13 characters	0402: MSG_14 Message 1 4 &_
Enter the Required text. (GONE HOME) using the line keys. Press the [Hold] key.	0402: MSG_14 -GONE HOME
Enter the next Message number to continue with this command OR Press the [Hold] key again to return to the command prompt.	0402: Text Messages Message No?

SA0402

Defaults

Message number	Message
MSG_0 1	IN MEETING UNTIL ##:##
MSG_02	OUT UNTIL ##:##
MSG_03	OUT PLEASE CALL #######
MSG_04	PLEASE CALL ME ON #######
MSG_05	BUSY - CALL AFTER ##:##
MSG_06	OUT FOR LUNCH BACK AT ##:##
MSG_07	BUSINESS TRIP UNTIL ##/##/##
MSG_08	BUSINESS TRIP CALL #######
MSG_09	GONE FOR THE DAY
MSG_10	ON VACATION UNTIL ##/##/##
MSG_11	MESSAGE 11
to	to
MSG_20	MESSAGE 20

Note: # indicates where numeric data can be inserted by the station user leaving the message. Blank data fields can be programmed into messages 1 to 20 by placing the **#** in the message.

SA0403

SMDR Operation

This command defines the operating parameters for Station Message Detail Recording (SMDR).

Input Data

Field Name	Description	nput Data
Account	Account number	: Not available : Option : Forced
Mask Digit	Number of masked ligits	: Not applied :to 24:
Min Digit	Minimum number of digits	: Not applied :to 24:
Pulse Cost	Charge per meter pulse	) to 65535: Number of cents per pulse
Print Port	DCI port number	: Not assigned to 24
Min Conv	Minimum conversation time	: All conversations 1 to 65535 seconds
Min I/C	Minimum incoming tim	3: All conversations 1 to 65535 seconds
Print Item No.	Print options	1: Restricted call 2: PABX call 3: Internal data call 4: Summary daily 5: Summary weekly 6: Summary monthly 7: Name/Number Select 0: Print Station Name 1: Print Station Numbe 8 to 16: Reserved
ITEM-(01-16)	Enable or disable printing	0: Disable printing 1: Enable printing

Example

This example sets the following SMDR options:

- Forced account codes
- Printed numbers will have 3 digits masked
- Printed numbers to have at least 8 digits
- Each meter pulse is recorded at 30 cents
- DCI port number 1 is the printer port
- Calls not recorded until they been in conversation for 2 minutes
- All calls waiting to be answered are recorded
- Monthly reports are disabled

SA 0403

Action	Display
Enter the command number.	USER: TELECOM LVL: I N Enter Command> 0403
Press the [Hold] key.	
Enter the account code mode of operation.(2).	0403: SMDR Operation Account: 1-2
Press the [Hold] key.	
Enter the number of digits to be masked (3).	0403: SMDR Operation Mask Digit: 2 - 3
Press the [Hold] key.	
Enter the minimum number of digits to be printed out (8).	0403: SMDR Operation tlin Digit: 0 - 8
Press the [Hold] key.	
Enter the number of cents to be charged for each meter pulse (30).	0403: SMDR Operation Pulse cost: 0-30
Press the [Hold] key.	
Enter the DCI port to which the printer is connected. (1).	0403: SMDR Operation Print Port: 0: 1
Press the [Hold] key.	
Enter the minimum number of seconds of a conversation before it is recorded (120)	0403: SMDR Operation Min Conv: 0 - 120
Press the [Hold] key.	
Enter the minimum number of seconds a call waits to be answered before it is recorded (0)	0403: SMDR Operation Min I/C: 0 - 0
Press the [Hold] key.	
Enter the print item number (6).	0403: SMDR Operation Print Item No? 6
Press the [Hold] key.	
Enter the print enable/disable code (0).	0403: SMDR Operation ITEM,06: 1-0
Press the [Hold] key.	
Enter the next print item number OR Press the [Hold] key to return to the command prompt.	0403: SMDR Operation Print Item No?

SA0403

Defaults

Field Name	Setting	Description
Account	1	Option
Mask Digit	2	2 digits
Min Digit	0	Not applied
Pulse Cost	0	0 cents per meter pulse
Print Port	0	Not assigned
Min Conv	0	All conversations
Min I/C	0	All conversations
Print Items 1-16	1	Printing enabled for print items

SA0404

Station Hotline Pairs

This command defines the originating and destination stations of a Hotline pair. The system can accommodate up to 10 Hotline stations.

Input Data

Field Name	Description	Input Data
Hotline No.	Hotline number	1 - 10
Origin	Originating station number	up to 4 digits
Target	Target station number	up to 4 digits

Example

This example sets station 104 as the Hotline destination for station 122.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 0404
Enter the Hotline number (1). Press the [Hold] key.	0404: Hotline Assign Hotline No? 1
Enter the number of the originating station (122) Press the [Hold] key.	0404: HOT_01 Origin: -122
Enter the number of target station (104). Press the [Hold] key.	8404: HOT-01 Target: -104
Enter the next Hotline number OR Press the [Hold] key to return to the command prompt.	0404: Hotline Assign Hotl ins No?

Defaults

None

IN 0405

System Common Timer

This command defines the values of the 50 system timers.

Input Data

Field Name	Description	Input Data
Timer No.	Timer number. Refer to Defaults for a list of the timers.	1 - 50
TIMER_(01-50)	The timer setting in seconds.	0 - 64800

Example

This example sets the exclusive hold callback time to 90 seconds.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command > 0405
Enter the Timer number (3). Press the [Hold] key.	0405: System Timer Timer No? 3
Enter the timer setting (90) Press the [Hold] key.	0405: System Timer TIMER_03:30-90
Enter the next Timer number OR Press the [Hold] key to return to the command prompt.	0405: System Timer Timer No?

Defaults

Timer Number	Description	Setting in seconds
1	Divert No Answer	10
2	Exclusive Hold	90
3	Exclusive Hold Callback	30
4	Call wait	10
5	Transfer ringing	30
6	-Reserved-	
7	Camp on/Callback (Internal)	15
8	-Reserved-	
9	I/C No answer alarm	60
10	Busy tone	15
11	-Reserved-	
12	Meet Me Conference	90
13	Inter-digit interval	10

IN 0405

Timer Number	Description	Setting in seconds
14	Meet Me Paging wait	90
15	-Reserved-	
16	First dii pause	3
17	Door chime	30
18	Pre-selection	5
19	Direct call start	5
20	PB receiver wait	10
21	Paging	64800
22	Congestion tone	10
23	Warning tone	10
24	Confiiation tone	10
25	-Reserved-	
26	-Reserved-	
27	-Reserved-	
28	Common Hold	90
29	Wake-up ringer	30
30	Long conversation alarm (initial)	0
31	Long conversation alarm (repeat)	0
32	DCI no answer	0
33	Trunk camp-on/callback	15
34	Common Hold callback	30
35	-Reserved-	
36	Internal dial tone	10
37	Camp-on cancel	64800
38	External inter-digit	10
39	-Reserved-	
40	Pause	3
41	Guard	1
42	LCD display holding	5
43	Reserved	
44	Reserved	
45	Repeat dial interval	60
46	Repeat dial call	30
47	Access Barring Override	10
48	SLT Inter-digit timer	3
49	-Reserved-	
50	-Reserved-	

IN 0406

Class Data for Station Class of Service

This command assigns a possible 128 service facilities into one of 10 classes of service.

Input Data

Field Name	Description	Input Data
Class No.	Class of Service number	1 - 10
Item No.	Class of Service facility number. Refer to the "Defaults" table for a list of service facilities.	1 - 128
ITEM_(001 - 128)	The service selection code.	Item-045 0: Common-hold 1: Exclusive hold All other items 0: OFF 1: ON

Example

This example assigns group call pick up to class of service 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 0406
Enter the Class of Service number (1). Press the [Hold] key.	0406: Class Service Class No? 1
Enter the item number (8) Press the [Hold] key.	0406: CLS_01 Item No?8
Enter the service selection code (1) Press the [Hold] key.	0406: CLS_01 ITEM_008: 0 - 1
Enter the next item number to continue entering data for this Class of Sservice OR Press the [Hold] key again and enter the next Class of Service number OR Press the [Hold] key twice to return to the command prompt.	0406: CLS_01 Item No? 0406: Class Service Class No?

IN 0406

Defaults

The table below shows the Station Class of Service numbers 1 to 10 and the service facilities assigned to them. A (1) in the table denotes that the facility is assigned to that Class of Service.

* In Item Number 45 a (1) denotes Exclusive Hold and a (0) denotes Common Hold

Item No.	Service Name	1	2	3	4	5	6	7	8	9	1	0
1	Hooking (Single Line Telephone)	1	1	1	1	1	1	1	1	1	1	1
2	Account Code In	1	1	1	1	1	1	1	1	1	1	1
3	Long Conversation Alarm	1	1	1	1	1	1	1	1	1	1	1
4	Bypass Call	0	0	0	0	1	0	0	0	0	1	
5	—reserved—											
6	—reserved—											
7	Data Privacy	1	1	1	1	1	1	1	1	1	1	
8	Group Call Pick-Up	0	1	1	1	1	0	1	1	1	1	
9	Other Group Call Pick-Up	0	1	1	1	1	0	1	1	1	1	
10	Direct Call Pick-Up	0	1	1	1	1	0	1	1	1	1	
11	Ring Inward	1	1	1	1	1	1	1	1	1	1	
12	DND	0	0	0	1	1	0	0	0	1	1	
13	Auto Intercom Call Register	1	1	1	1	1	1	1	1	1	1	
14	Meet Me	1	1	1	1	1	1	1	1	1	1	
15	Message Waiting	0	0	1	1	1	0	0	1	1	1	
16	Conference	0	0	1	1	1	0	0	1	1	1	
17	Personal Speed Dial	1	1	1	1	1	1	1	1	1	1	
18	Common Speed Dial	1	1	1	1	1	1	1	1	1	1	
19	—reserved—											
20	—reserved—											
21	—reserved—											
22	External Paging	0	0	1	1	1	0	0	1	1	1	
23	Divert - Immediate	0	0	0	1	1	0	0	0	1	1	
24	Camp-on/Call-back (Internal)	0	1	1	1	1	0	1	1	1	1	
25	Camp-on/Call-back (External)	0	1	1	1	1	0	1	1	1	1	
26	Follow Me	0	1	1	1	1	0	1	1	1	1	
27	Reminder Alarm	0	0	0	0	0	1	1	1	1	1	
28	Night Service	0	0	0	1	1	0	0	0	1	1	
29	—reserved—											
30	—reserved—											
31	Divert - Busy or No-Answer	0	0	0	1	1	0	0	0	1	1	
32	Divert - No-Answer	0	0	0	1	1	0	0	0	1	1	
33	—reserved—											
34	—reserved—											
35	—reserved—											
36	—reserved—											
37	—reserved—											
38	—reserved—											
39	—reserved—											
40	—reserved—											
41	Direct Call (Hot Line)	1	1	1	1	1	1	1	1	1	1	
42	—reserved—											
43	—reserved—											
44	Splitting	1	1	1	1	1	1	1	1	1	1	
45	Common-Hold/Exclusive-Hold	0	0	0	0	0	0	0	0	0	0	
46	Conversation Time display	1	1	1	1	1	1	1	1	1	1	
47	—reserved—											
48	Last Number Redial	1	1	1	1	1	1	1	1	1	1	
49	Saved Number Redid	1	1	1	1	1	1	1	1	1	1	
50	Pre-set Dialling	1	1	1	1	1	1	1	1	1	1	

IN 0406

Item No.	Service Name	1	2	3	4	5	6	7	8	9	1	0
51	—reserved—											
52	Internal Paging	0	0		1		1		1		0	1
53	Background Music	1	1	1	1	1	1	1	1	1	1	1
54	Room Monitor	0	0		0		0	1		0	0	0
55	Room Monitored	1	1	1	1	1	1	1	1	1	1	1
56	Key-touch Tone	1	1	1	1	1	1	1	1	1	1	1
57	—reserved—											
58	—reserved—											
59	Line access from idle mode	1	1	1	1	1	1	1	1	1	1	1
60	Operator access from idle mode	1	1	1	1	1	1	1	1	1	1	1
61	—reserved—											
62	—reserved—											
63	—reserved—											
64	—reserved—											
65	Internal Outgoing	1	1	1	1	1	1	1	1	1	1	1
66	External Outgoing	1	1	1	1	1	1	1	1	1	1	1
67	Picked Up Station	1	1	1	1	1	1	1	1	1	1	1
68	Pilot Number called Station	1	1	1	1	1	1	1	1	1	1	1
69	—reserved—											
70	—reserved—											
71	—reserved—											
72	Break In	0	0		0		0	1		0	0	1
73	BUZZ	0	0	0	0	0	1	1	1	1	1	1
74	Signal Called/Voiced Called	0	0	0	0	0	1	1	1	1	1	1
75	Station Programming	0	0	0	0	0	1	1	1	1	1	1
76	DCI Programming	0	0	0	0	0	1	1	1	1	1	1
77	—reserved—											
78	Clock Data Set	0	0	0	0	0	0	0	0	0	0	0
79	Voice/Signal Change Calling	1	1	1	1	1	1	1	1	1	1	1
80	Transmitter Mute	1	1	1	1	1	1	1	1	1	1	1
81	Repeat Dialling	1	1	1	1	1	1	1	1	1	1	1
82	Text Message	0	0		1		1		1		0	1
83 - 128	—reserved—											

SA 0409

ISDN Called Number

This command defines the Called numbers for incoming ISDN calls that can be directed to a particular Ring Group. Any incoming Called number not defined in tables 2 - 22 will default to Table 1.

Input Data

Field Name	Description	Input Data
Table No	Table number	2 - 22
TBL_(02-22)	ISDN called number	Up to 8 digits

Example

This example sets '2155667' as an allowed ISDN call number in table 2.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command > 0409
Enter the table number (2). Press the [Hold] key.	0409: ISDN Called No. Table No? 2
Enter the ISDN called number (2155667) Press the [Hold] key.	0409: TBL_02 -2155667
Enter the next table number to continue in this command. OR Press the [Hold] key again to return to the command prompt.	0409: ISDN Called No. Table No?

Defaults

All unallocated Called numbers default to table 1.

SA 0410

ISDN Called Incoming Ring Group

This command allocates ISDN Call Types to Tables and directs the Tables to an incoming Ring Group.
The ISDN Called Numbers are assigned to Tables in Command SA 0409.

Field Name	Description	Input Data
Table No	Table number	1 - 10
Type No	The Call Type Number	1 - 7 1: Speech 2: Audio 3: V.110 Rate Adaptation 4: Fax (Group 1- 4) 5: Teletex via audio data 6: DCI to DCI LAPB 7: Unrestricted digit
IRG(Day)	Incoming Ring Group for Day Mode	1 to 10
IRG(Night1)	Incoming Ring Group for Night 1 Mode	1 - 10
IRG(Night2)	Incoming Ring Group for Night 2 Mode	1 - 10
MODEM	(Where Type No. is 2) The Modem type	0: Voice 1: Modem type 1 2: Modem type 2 3: Modem type 3 4: Modem type 4 5: Modem type 5 6: Modem type 6 7: Modem type 7 8: Modem type 8 9: User supplied Fax or Modem
RATE	(Where Type No. is 3) The Protocol	0: CCITT V.110 1: CCITT x.30

Note: For voice calls, data must be inserted in Type 1 and Type 2. For type 2 the modem type is 0. If the type 2 section is not completed calls from the PSTN will be lost.

Example

This example allocates ISDN Voice calls to Table 3 and directs the calls to ring at Ring Group 4 during Day Mode.

Action	Display
Enter the command number.	USER: TELECOM LVL: I N Enter Command > 0410
Press the [Hold] key.	
Enter the table number (3).	0410: ISDN Called IRG Table No? 3
Press the [Hold] key.	

SA 0410

Action	Display
Enter the **Call** Type Number (2). Press the [Hold] key.	0410: **TBL_03** **Type? 2**
Enter the **IRG** Number for Day Mode (4).	0410: **TBL_03 AUDIO** **IRG[Day]:** 0 - 4
Press the [Hold] key three times.	
Enter the Modem type (0). Press the [Hold] key.	**0410:TBL_03 AUDIO** **MODEM:0-0**
Enter the next Call Type Number OR Press the [Hold] key.	0410: **TBL_03** **Type?**
Enter the next table number to coninue in this command. OR Press the [Hold] key again to return to the command prompt.	0410: ISDN Called **No.** Table **No?**

Defaults

Table 1 defaults to **IRG** 1 in all Modes for Types 1 and 2

SA 0411

Voice Mail Code

This command sets the code that is forwarded to the Voice Mail system when a call to a station is diverted to the Voice Mail.

Input Data

Field Name	Description	Input Data
Code	Voice Mail function code	Up to four digits

Example

This example sends a Voice Mail function code of 1234 when a call is diverted to the Voice Mail system.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command > 0411
Enter the voice store code (1234). Press the [Hold] key.	0411: VM Store Code Code: -1234

Defaults

None.

IN 0501

Access Codes

This command assigns the ranges of codes which are dialled, to the system facilities they will access. The first one or two common digits of the access codes are entered and then the total number of digits required. eg If the numbers in the range 650 to 659 were to be assigned as service codes, then 65 would be entered in the Dial field and 3 (the total number of digits) in the Digit field.
The range is then assigned to a facility.

Input Data

Field Name	Description	Input Data
Dial	The access code prefix	**0 to 99**
Digit	The total number of digits	1 to4
Facility	The system facility to be accessed by the code.	1: Service code access **2:** Station access 3: DCI group access **4:** Door station access 5: Station group access **6:** Trunk access **7:** Operator access **8 -** 10: reserved
PBX No. (Networks Only)	The number of the PBX where the code applies	**o - 7**

Example

In this example, all 3-digit numbers beginning with the number "7" are assigned to facility 2 (Station access).

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LUL: IN Enter Command > 0501
Enter the access code prefix (7). Press the [Hold] key.	0501: Access Codes Dial? 7
Enter the total number of digits in the Access codes (3). Press the [Hold] key.	0501: DIAL_7 Digit: 2 3
Enter the facility number (2). Press the [Hold] key twice.	0501: DIAL_7 Facility: 1 2
Enter the next access code prefix to continue in this command OR Press the [Hold] key again to return to the command prompt.	0501: Access Codes Dial?

Defaults

Access Code Prefix	Digit Field	Facility Field	Facility Name	Range of Code Numbers Assigned to Each Facility
0	1	6	Trunk access	0
9	1	7	Operator access	9
80	3	5	Station group access	800 to 809
81	3	3	DCI group access	810 to 819
82	3	4	Door station access	820 to 829
87	2	1	Service code access	87
88	2	1		88
89	3	1		890 to 899
7	2	1		70 to 79
6	3	1		600 to 699
1	3	2	Station access	100 to 199
2	3	2		200 to 299
3	3	2		300 to 399
4	3	2		400 to 499

SA0502

Station Number and Name

This command defines each station's dial number and name. This command is also used to change station dial number and name to accommodate staff moves and changes.

Input Data

Field Name	Description	Input Data
STN No.	The station port number	1 to 24
Dial (see note)	The station dial number	Up to 4 digits
Name	The station name	Up to 8 characters

Note: Two stations may not have the same number. If a dial number already exists elsewhere in the system it cannot be entered a second time. A message "DUPLICATE NUMBER" will be displayed and an error tone will be heard. The existing station dii number must first be cleared. To clear an entry press the [Clear] key.

Example

This example assigns the dial number "123" and the name "RECEPTION" to station port number 1.

Action	Display
Enter the command number.	USER: TELECOM LVL: I N Enter Command > 0502
Press the [Hold] key.	
Enter the station port number (1)	0502: Stn Dial _ Name Stn Port No? 1
Press the [Hold] key.	
Enter the station dial number (123)	0502: STA_001 Dial 101-123
Press the [Hold] key.	
Enter the station name (RECEPTION) using the line keys.	0502: STA_001 Name -RECEPTION
Press the [Hold] key.	0502: Stn Dial _ Name Stn Port No?
Enter the next station port number OR Press the [Hold] key again to return to the command prompt.	

Defaults

Station port Number	Station Dial Number	Station Name
1 - 24	101 - 124	Not defined

SA0503

Station Group Access Number and Name

This command defines the Access Code and name for each Station Group.

Field Name	Description	Input Data
Stn Group No.	The station group number	1 to4
Dial	The station group dial number	Up to 4 digits
Name	The Station Group name	Up to 8 characters

Example

This example assigns the group access code "821" and the name "SALES" to Station Group number 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER: **TELECOM** LUL: IN **Enter** Command> 0503
Enter the Station Group number (1) Press the [Hold] key.	0503: **Group** Dial-Name **Stn Group** No? 1
Enter the Station Group dial number (821) Press the [Hold] key.	**0503:** **STG_001** **Dial:801-821**
Enter the Station Group name (SALES) using the line keys. Press the [Hold] key.	**0503 :** **STG_001** **Name:** GROUP 1 **-SALES**
Enter the next Station Group number OR Press the [Hold] key again to return to the command prompt.	0503: **Group Dial_Name** **Stn Group** No?

Defaults

Station Group Number	Station Group Dial Number	Group Name
1	801	GROUP 1
2	802	GROUP 2
3	803	GROUP 3
4	804	GROUP 4

IN 0504

Door Station Access Number

This command defines the Access Code for the Door Station.

Input Data

Field Name	Description	Input Data
DST	The Door Station access number	Up to 4 digits

Example

This example assigns the Door Station access code to"822".

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LUL: IN **Enter Command> 0504**
Enter the Door Station access number (822) Press the [Hold] key.	0504: **Door Stn Access** DST: 821-822

Defaults

The Door Station Access Code is set to “821”

IN 0505

Trunk Access Code

This command defines the Trunk Access Code.

Input Data

Field Name	Description	Input Data
Trk Access Code	The trunk access number	Up to 4 digits

Example

This example assigns the trunk access code to "9".

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LUL: IN Enter Command> 0505
Enter the trunk access number (9) Press the [Hold] key.	0505: Trk Access Code :0-9

Defaults

The Trunk Access Code is set to "0"

IN 0506

Service Code

This command defines the dial number for each Service Code.

Input Data

Field Name	Description	Input Data
Service Code	The service code Refer to the default table for a list of service codes	1 - 100
SRVCD_(001-100)	The dii number for the service code	Up to 4 digits

Example

This example assigns the dial number "600" to service code number 13 (Text Message).

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command > 0506
Enter the Service Code number (13) Press the [Hold] key.	0506: Service Code Service Code? 13
Enter the dial number (600) Press the [Hold] key.	0506: Service Code SRVCD_013:651-600
Enter the next service code number to continue in this command. OR Press the [Hold] key again to return to the command prompt.	0506: Service Code Service Code?

Defaults

Service Code	Description	Dial No.
1	Account code in	632
2	Bypass call	611
3	Divert - Set	77
4 -8	—reserved—	
9	Data Privacy - set	627
10	Night mode change	641
11	-reserved-	
12	-reserved-	
13	Text Message	651
14	DND - set	624
15	DND - cancel	625
16	Follow Me - set	78
17	—reserved—	
18	Message Waiting - set and answer	601

IN 0506

Service Code	Description	Dial No.
19	Message Waiting - cancel all sent	602
20	Message Waiting - cancel receive	603
21	Message Waiting - cancel	604
22	Last Number Redial	70
23	—reserved—	
24	—reserved—	
25	Conference	76
26	Break In	612
27	Group Call Pick-up	74
28	Other group Call Pick-up	75
29	Direct group Call Pick-up	610
30	—reserved—	
31	All Call page	890
32	External speaker paging	87
33	Call-back - set	79
34	Call-back - cancel	613
35	Alarm - set/cancel	652
36	Common Speed Dial	72
37	Station Speed Dial	73
38	Saved Number Redial	71
39	Internal zone paging	88
40	Station Speed Dial - set	653
41	Trunk group access	631
42	Register repertory dial	654
43	Register ICM number	655
44	(Monitor or monitored - set)	
45	Intercom called voice - set	621
46	Intercom called signal - set	622
47	Hook or Flash	634
48	(Keystation check mode)	
49	Keystation programmable key setting	656
50	Operation and Maintenance log on	643
51	(DC key)	
52	Clock/Date - set	642
53	-reserved-	
54	Voice signal change calling	614
55	Access barring override	633
56	Meet Me set	606
57	Meet Me conference set	607
58	Internal Meet Me answer	609
59	External Meet Me answer	608
60	Meet Me answer	605
61	Headset mode change	626
62	(HP-LCD DSS key set)	
63	DCI Auto Answer mode set	661
64	Data call service code	662
65	DCI Initial	663
66	Charge for Call Continuous	664

IN 0506

Service Code	Description	Dial No.
67	Charge at End of Call	665
68	Current Charge for Call	666
69	Reading of Exchange Meters	667
70	Malicious Call Trace	668
71	—reserved—	
72	ICM Called Voice on Second Call/Set	671
73	ICM Called Signal on Second Call/Set	672
74	Visual Indication on Second Call/Set	673
75	Second Speech Path Disabled/Set	674
76	DCI-DC1 Access Mode Set	681
77	Group Facsimile Access Mode Set	682
78	Telex via Audio Data Access Mode Set	683
79	Audio Access Code	684
80	Timelink Call	685
81 - 100	—reserved—	

SA0507

DCI Group Access Number and Name

This command defines the access number and name for each DCI group.

Input Data

Field Name	Description	Input Data
DCG No.	The DCI group number	1 - 4
Dial	The dial number for the DCI group	Up to 4 digits
Name	The DCI group name	Up to 8 characters

Example

This example assigns the DCI group access code "841" and the group name "ACCOUNTS" to DCI group number 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 0507
Enter the DCI group number (1) Press the [Hold] key.	0507:DCG Dial _Name DCG No? 1
Enter the DCI group dial number (841) Press the [Hold] key.	0507: DCG_00 1 Dial:811-841
Enter the DCI group name (ACCOUNTS) using the line keys. Press the [Hold] key.	0507: DCG_00 1 Name:DATAG 1-ACCOUNTS
Enter the next DCI group number OR Press the [Hold] key again to return to the command prompt.	0507:DCG Dial _Name DCG No?

Defaults

DCI Group Number	DCI Group Dial Number	Group Name
1	811	DATAG 1
2	812	DATAG 2
3	813	DATAG 3
4	814	DATAG 4

SA 0601

Speed Dial Number and Name

This command assigns a number and a name to a Speed Dial code. Each number can be up to 24 digits and each name up to 8 alphanumeric characters.
Speed dial codes l-100 are reserved for Common Speed Dial numbers.
Speed dial codes 101-340 are station personal Speed Dial numbers (ie. 10 personal Speed Dial codes for station ports 1, 24).
Station personal Speed Dial numbers are normally stored by the individual user.

Input Data

Field Name	Description	Input Data
SpD No.	The number of the Speed Dial	1 - 340
Dial	The number to be dialled	Up to 24 digits
Name	The name of the Speed Dial	Up to 8 characters

Example

This example assigns the number "0448 111 11 1", and the name "TELECOM" to Speed Dial code 1

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 0601
Enter the Speed Dial code number (1). Press the [Hold] key.	0601: SpD Dial _Name Speed Dial No? 1
Enter the Speed Dial number (0448111111). Press the [Hold] key.	0601: SPD_0001 Dial -0448111111
Enter the Speed Dial name (TELECOM) . Press the [Hold] key.	0601: SPD_0001 Name SPD 001 -TELECOM
Enter the next Speed Dial number to continue in this command. OR Press the [Hold] key again to return to the command prompt.	0601:SpD Dial _Name Speed Dial No?

Defaults

IN 0602

Common Speed Dial Allocation

This command defines the number of Common Speed Dial numbers available in the system.

Input Data

Field Name	Description	Input Data
Start	The first Speed Dial number in the range.	1 - 100
Length	The number of Common Speed Dial numbers available.	1 - 100

Example

This example allocates SO Speed Dial numbers to be available for use.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command > 0602
Enter the first Speed Dial number (1). Press the [Hold] key.	0602: Common SpD Area Start: 1 - 1
Enter the number of Common Speed Dial codes. Press the [Hold] key.	0602: Common SpD Area Length: 1-50

Defaults

First Code Number	Number of Codes
1	100

IN 0701

Restriction Data

This command defines the restriction data, such as dial code prefixes which are allowed or barred, PABX codes etc.

Input Data

Field Name	Description	Input Data
Alw STD/IDD No.	The serial number of the allowed STD/IDD prefix.	1 - 12
REST_(01-12)	The dial code prefix for allowed STD/IDD numbers	Up to 8 digits.
Bar IDD No.	The serial number of the barred IDD prefix.	1 - 4
REST_(1 - 4)	The dial code prefix for barred IDD numbers.	Up to 4 digits
Bar STD No.	The serial number of the barred STD prefix.	1 - 16
REST_(1-16)	The dial code prefix for barred STD numbers.	Up to 4 digits
Com Alw No.	The serial number of the allowed common prefix	1 - 4
REST_(1-4)	The dial code prefix for common allowed numbers.	Up to 4 digits
PBX Acs No.	The serial number of the PBX access number	1 - 4
Digit Limit	The number of digits which may be dialled.	0 to 30
Opt Item No.	Common Speed Dial restriction data	0: Allowed 1: Not allowed (refer to default table)

Example

This example sets up 044811 and 072351 as allowed prefixes for STD/IDD calls.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LUL: IN Enter Command > 0701
Enter the serial number of the allowed STD/IDD prefix(1). Press the [Hold] key.	0701:Restriction Set Alw_STD/ISD No? 1
Enter the allowed STD/IDD prefix (044811). Press the [Hold] key. Press the [D] key to step to the second allowed STD/IDD prefix entry.	0701: RSTCD_01 -044811

IN 0701

Action	Display
Enter the allowed STD/IDD prefix (07235 1).	0701: RSTCD,02 -07235 1
Press the [Hold] key.	
Press the [Hold] key another six times to return to the command prompt.	

Defaults

Field Name	Contents
ALW_STD/IDD No 1-12	none
Bar IDD No. 1	0011
Bar IDD No. 2	0014
Bar IDD No. 3	0012
Bar IDD No. 4	0101
Bar STD No. 1	02
Bar STD No. 2	03
Bar STD No. 3	04
Bar STD No. 4	05
Bar STD No. 5	06
Bar STD No. 6	07
Bar STD No. 7	08
Bar STD No. 8	09
Bar STD No. 9	001
Bar STD No. 10	002
Bar STD No. 11	003
Bar STD No. 12	004
Bar STD No. 13	011
Bar STD No. 14	018
Bar STD No. 15	0055
Bar STD No. 16	none
Corn Alw No. 1	000
Corn Alw No. 2	008
Corn Alw No. 3	013
Corn Alw No. 4	016
PBX Acs No.	none
Digit Limit	7
Opt Item No. 1	1 (restricted)

Note: It is an AUSTEL requirement that the emergency number '000' is never barred access. Ensure that '000' is always inserted in the common allowed number table.

SA 0801

Day Pattern

The command is used to specify times when the system will operate in Day mode, Night 1 mode or Night 2 mode. The combination of operating modes for a day is called a "Day Pattern". Up to 5 Day Patterns may be defined - these are used in conjunction with the Weekly Schedule, set up using Command 0802.

A Day Pattern consists of up to 10 sets, and each set can be assigned to Day mode, Night 1 mode and Night 2 mode.

Any set during the day that is not specified as Night 1 mode or Night 2 mode defaults to Day mode.

Input Data

Field Name	Description	Input Data
Pattern No	The Day Pattern number	1 to 5
Set No	The Set Number	1 to 10
Start (Hour)	The hour at which the set starts	0 to 23
Start (Min)	The minute at which the set starts	0 to 59
End (Hour)	The hour at which the set ends	0 to 23
End (Min)	The minute at which the set ends	0 to 59
Mode	The operational mode for the set	0: Day mode 1: Night 1mode 2: Night 2 mode

Example

The following example sets up Night 1 mode as midnight to 8.30am, Day mode as 8.30am to midnight as pattern 4.

Set No.	Mode	Start time	End time
1	Night 1	00:00	08:30
2	Day	08:30	00:00

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command> 0801
Enter the Day Pattern number (4). Press the [Hold] key.	0801: Dar Pattern Pattern No? 4
Enter the set number (1). Press the [Hold] key.	0801: P-4. Set No? 1
Enter the start time hour (00) Press the [Hold] key.	0801: P_4 S_01 Start[Hour]:0-00

SA 0801

Action	Display
Enter the start time minutes (00) press the [Hold] key.	0801: P_4 S_01 StartCMin. 3: 0-00
Enter the end time hour (08) press the [Hold] key.	0801: P_4 S_01 EndCHour]:0-08
Enter the end time minutes (30) press the [Hold] key.	0801: P_4 S_01 EndCMin.]:0-30
Enter the mode (1) press the [Hold] key.	0801: P_4 S_01 Mode: 0-1
Enter the next set number to continue entering data for this pattern OR	0801: P-4 Set No?
press the [Hold] key again and enter the next pattern number OR Press the [Hold] key again to return to the command prompt.	0801:Dar Pattern Pattern No?

Defaults

Pattern Number	Set Number	start	End	Mode
1	1	19:00	0:00	1 (Night 1 mode)
	2	0:00	7:o	2 (Night 2 mode)
2	1	13:oo	0:00	1 (Night 1 mode)
	2	0:00	7:00	2 (Night 2 mode)
3	1	0:00	0:00	2 (Night 2 mode)
4	1	0:00	0:00	0 (Day mode)
5	1	0:00	0:00	0 (Day mode)

SA0802

Weekly Schedule

The command defines which Day Patterns are used for each day of the week.

Note: Refer to Command 0801 for information on day pattern settings.

Input Data

Field Name	Description	Input Data
Day No.	The day of the week	1: Sunday 2: Monday 3: Tuesday 4: Wednesday 5: Thursday 6: Friday 7: Saturday
(Sun-Sat)	The pattern number for this day	1 to 5

Example

The example selects Day Pattern 2 for Sunday.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 0802
Enter the day number (1). Press the [Hold] key.	0802: Week Schedule Day No? 1
Enter the Day Pattern number (2). Press the [Hold] key.	0802: Week Pattern Sunday : 3-2
Enter the next Day number to continue in this command OR Press the [Hold] key again to return to the command prompt.	0802: Week Schedule Day No?

Defaults

Day Number	Day	Day Pattern Number
1	Sunday	3
2	Monday	1
3	Tuesday	1
4	Wednesday	1
5	Thursday	1
6	Friday	1
7	Saturday	2

SA0803

Yearly Schedule

The command is used to select the Day Pattern used for special days of the year, such as public holidays.

Note: Refer to Command 0801 for information on day pattern settings.

Input Data

Field Name	Description	Input Data
Month	The month of the year	1: January to 12: December
Day No	The day of the month	1 to31
Day-(l-3 1)	The Day Pattern number to be used	1 to 5

Example

The example sets December 25th to Day Pattern 3.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 0803
Enter the month number (12). Press the [Hold] key.	0803:Year Schedule Month? 12
Enter the day number (25). Press the [Hold] key.	0803: MONTH_ 12 Day No? 25
Enter the Day Pattern number (3). Press the [Hold] key.	0803: MONTH_12 DAY_25: 0-3
Enter the next day number to continue entering data for this month OR Press the [Hold] key again and enter the next month number OR Press the [Hold] key again to return to the command prompt.	0803: MONTH_12 Day No? 0803: Year Schedule Month?

Defaults

Day Pattern 0 is set for all days.

IN 0901

Trunk Port Type

The command defines the type of operation for a trunk port.

Input Data

Field Name	Description	Input Data
TRK No.	Trunk port number.	1 to 10
Item No.	The trunk port type.	1 to 16 Refer to table
ITEM-(l-16)	The option selection for the trunk port type.	Oor 1 Refer to table

Trunk Port Type number (Item No)	Description	Option Selection
1	Decadic/DTMF	1: DTMF D: Decadic
2	Incoming type	**D:** Ordinary 1: Not available
3	CODEC Gain type	1: Type-l (Transmit 0dB, Receive 0dB) 2: Type-2 (Transmit +5dB, Receive +3dB) 3: Type-3 (Transmit -5dB, Receive -5dB) 4: Type-4 (Transmit +5dB, Receive +5dB) 5: Type-5 (Transmit +10dB, Receive + 10dB)
4	Connected hold tone source	0: EXMOH 1: BGM
5	Hook-flash	0: Hook-flash
6	Hook-flash type	0: Flash1 (100 mS) 1: Flash2 (600 mS)
7	Behind PABX in Day mode	0: Not behind 1: Behind
8	Behind PABX in Night 1 mode	0: Not behind 1: Behind
9	Behind PABX in Night 2 mode	0: Not behind 1: Behind
10	Reserved	
11	Pause at line seizure	0: No pause 1: Pause used
12	SMDR print out enable/disable	0: Print out 1: No print out

IN0901

Trunk Port Type number (Item No)	Description	Option Selection
13	Service type	0: Normal 1: Reserved 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: Reserved 7: Reserved
14	Line Access	0: Incoming only 1: Both way
15	Restrict	0: Restrict 1: Non-restrict
16	2-line conference CODEC gain Type	1: Type 1 (-6db) 2: Type 2 (-3db) 3: Type 3 (0db)

Example

This example selects DTMF as the Trunk Port type for trunk port 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 0901
Enter the Trunk Port number (1). Press the [Hold] key.	0901: Trunk Type Trk Port No? 1
Enter the Trunk Port type number (1). Press the [Hold] key.	0901: TPK_00 1 Item? 1
Enter the option selection(1). Press the [Hold] key.	0901 TRK_00 1 ITEM_01: 0-1
Enter the next Item Number to continue entering data for this port number OR	0901: TPK_00 1 Item?
Press the [Hold] key again and enter the next port number OR	0901: Trunk Type Trk Port No?
Press the [Hold] key again to return to the command prompt.	

IN 0901

Defaults

Trunk Port Type Number (Item No)	Description	Option Setting
1	Decadic/DTMF	1 (DTMF)
2	Incoming type	0 (Ordinary)
3	CODEC Gain type	1 (Type-1)
4	Connected hold tone source	0 (EXMOH)
5	Hook-flash	0 (Hook-flash)
6	Hook-flash type	0 (Flash1)
7	Behind PABX in Day mode	0 (Not-behind)
8	Behind PABX in Night 1 mode	0 (Not-behind)
9	Behind PABX in Night 2 mode	0 (Not-behind)
10	Reserved	
11	Pause at line seizure	1 (Pause use)
12	SMDR printout enable/disable	0 (Print-out)
13	Service type	0 (Normal)
14	Outgoing	1 (Enable)
15	Restrict	0 (Restrict)
16 Type	2-line conference CODEC Gain	1 Type 1

IN 0902

Incoming Ringer Type

The command is used to select the incoming ringer type for a trunk.

Input Data

Field Name	Description	Input Data
Trk Port No.	Trunk Port number.	1 to 10
TKP_(001-010)	The ringer type	0 Ringer tone no.1
		1 :Ringer tone no.2
		2 Ringer tone no.3
		3 :Ringer tone no.4

Example

This example selects ringer tone no. 2 for trunk port 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 0902
Enter the Trunk Port number (1). Press the [Hold] key.	0902: I/C Ringer Type Trk Port No? 1
Enter the ringer tone type number (2). Press the [Hold] key.	0902: I/C Ringer Type TKP_00 1: 0-2
Enter the next Trunk Port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	0902: I/C Ringer Type Trk Port No?

Defaults

All trunk ports are set to 0 (Ringer tone no.1)

IN0903

Trunk Naming

The command defines the name of a trunk port.

Input Data

Field Name	Description	Input Data
Trk Port No.	Trunk port number.	1 to 10
TKP_(001-010)	The trunk port name.	Up to 8 characters

Example

This example sets the name of trunk port 1 to "I/C 001".

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command> 0903
Enter the Trunk Port number (1). Press the [Hold] key.	0903: Trunk Nami ng Trk Port No? 1
Enter the Trunk Port name (I/C 001). Press the [Hold] key	0903: TKP_001 LINE 0 1 -I/C 001
Enter the next Trunk Port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	0903: Trunk Naming Trk Port No?

Defaults

Trunk Port Number	Trunk Port Name
1 - 10	"LINE 01" to "LINE 10"

IN 0905

Trunk Group

This command assigns a trunk port to a group and sets the order the lines will be accessed within that group.

Input Data

Field Name	Description	Input Data
Trk Port No.	Trunk Port number.	1 to 10
Trk Group No.	Trunk Group number	0: Not defined 1 to 10: Trunk Group number
Order No.	The access order number	0: Not defined 1 to 10: Access order

Example

This example assigns trunk port 4 to be the second line 'accessed in trunk group 2.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 0905
Enter the Trunk Port number (4). Press the [Hold] key.	0905: Trunk Group Trk Port No? 4
Enter the Trunk Group number (2). Press the [Hold] key.	0905: TKP_001 Trk Group No: 1-2
Enter the access order number (2). Press the [Hold] key.	0905: TKP_001 Order No: 4-2
Enter the next Trunk Port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	0905: Trunk Group Trk Port No?

Defaults

Trunk Port Number	Trunk Group Number	Access Order
1 - 10	1	1 - 10

IN 0906

Routing of Trunk Group

This command assigns trunk groups to a trunk route and sets the order the groups will be accessed within that route.
Up to 4 trunk groups (or 3 trunk groups and 1 trunk route) can be assigned to a trunk route. If a trunk route is included within another trunk route it must have priority 4.

Input Data

Field Name	Description	Input Data
Route No.	Route number	1 to4
Order No.	Priority order within the route	1 to4
Order-(01-04)	The trunk group number	0: Not defined 1 to 10 Group number 1001 to 1004 Route number

Example

This example assigns trunk group 4 to be the second group accessed in trunk route 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 0906
Enter the route number (1). Press the [Hold] key.	0906: Route Set Route No? 1
Enter the priority number (2). Press the [Hold] key.	0906: Route_001 Order No? 2
Enter the Trunk Group number (4). Press the [Hold] key.	0906: Route_001 Order_02:0-4
Enter the next trunk priority number to continue with this route OR Press the [Hold] key again and enter the next route number OR Press the [Hold] key again to return to the command prompt.	0906: Route_001 Order No? 0906: Route Set Route No?

IN 0906

Defaults

Route Number	Order Number	Trunk Group Number
1	1	1 (Trunk Group 1)
	2	0 (Not Assigned)
	3	0 (Not Assigned)
	4	0 (Not Assigned)
2 - 4	All Trunk Groups are set to 0 (Not Assigned) for all Priority Orders.	

IN 0907

Trunk Route for Station

This command assigns stations and DCIs to a trunk route.

Input Data

Field Name	Description	Input Data
Stn Port No.	Station port number	1 to 24
Route(Stn)	The route number for the station	0:Not assigned 1 to 4: Route number
Route(DCI)	The route number for the DCI	0: Not assigned 1 to 4: Route number

Example

This example assigns station port numer 12 to trunk route 3 and the associated DCI to trunk route-4.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 0907
Enter the station port number (12). Press the [Hold] key.	0907: Route No Assign Stn Port No? 12
Enter the route number for the station (3). Press the [Hold] key.	0907: STP_0 12 Route[Stn]:1-3
Enter the route number for the DCI (4). Press the [Hold] key.	0907: STP_0 12 Route[DCI]:0-4
Enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	0907: Route No Assign Stn Port No?

Defaults

Station port number	Station route number	DCI route number
1 - 24	1	0

IN 0908

Incoming Ring Group (Stations)

This command assigns stations to an incoming ring group (IRG). When an incoming call occurs only stations that are enabled in the IRG for each trunk will ring.

Input Data

Field Name	Description	Input Data
I/C Ring Grp No.	Incoming Ring Group	1 to 22
Stn Port No.	Station port number	1 to 24
STP_(001-024)	Enable/disable ringing	0: Disable ringing 1: Enable ringing

Example

This example assigns station port number 12 as the ringing station for Incoming Ring Group 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 0908
Enter the Incoming Ring Group number (1). Press the [Hold] key.	0908: I/C Ring Group I/C Ring Grp No? 1
Enter the station port number (12). Press the [Hold] key.	0908: IRG_001 Stn Port No? 12
Enter the enable code (1). Press the [Hold] key.	0908: IRG_001 STP_012: 0-1
Enter the next station port number to continue with this IRG OR Press the [Hold] key again and enter the next IRG to continue with this command. OR Press the [Hold] key again to return to the command prompt.	0908: I/C Ring Group I/C Ring Grp No? 0908: I/C Ring Group I/C Ring Grp No?

Defaults

Incoming Ring Group	Station Port Number Enabled/Disabled	Ringing
1	2 to 24	0 Ringing disabled 1 Ringing enabled
2to 10	Incoming ring is disabled for all stations and all IRGs	

IN 0909

Incoming Ring Group (Trunks)

This command assigns trunks to an incoming ring group (IRG). Trunks may be assigned to different IRGs for different operating modes (Day, Night 1, Night 2).

Input Data

Field Name	Description	Input Data
Trk Port No.	The trunk port number	1 to 10
IRG(Day)	Incoming Ring Group Day mode	0: Not defined 1 to 10
IRG(Night 1)	Incoming Ring Group Night 1 mode	0: Not defined 1 to 10
IRG(Night 2)	Incoming Ring Group Night 2 mode	0: Not defined 1 to 10

Example

This example assigns trunk port number 3 to Incoming Ring Group 2 for day mode only.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 0909
Enter the trunk port number (3). Press the [Hold] key.	0909: Trk Assign IRG Trk Port No? 3
Enter the Incoming Ring Group number for Day mode (2). Press the [Hold] key.	0909: TKP_003 IRG[Day]: 1-2
Enter the Incoming Ring Group number for Night 1 mode (0). Press the [Hold] key.	0909: TKP_003 IRG[Night 13: 1-0
Enter the Incoming Ring Group number for Night 2 mode (0). Press the [Hold] key.	0909: TKP_003 IRG[Night 23: 1-0
Enter the next trunk port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	0909: Trk Assign IRG Trk Port No?

Defaults

Trunk Port	IRG (Day)	IRG (Night 1)	IRG (Night 2)
1 to 10	1	1	1

IN 0910

Trunk Access Map

This command assigns trunk ports to a Trunk Access Map and their mode of operation (Access Code).

Input Data

Field Name	Description	Input Data
TAM No.	Trunk Access Map number	1 to 10
Trk Port No.	The Trunk Port number	1 to 10
TKP_(001-010)	The Trunk Access Code	0: Not assigned' 1: Outgoing only 2: Incoming only 3: Holding only 4: Outgoing and Holding 5: Incoming and Holding 6: Incoming and Outgoing 7: Incoming, Outgoing and Holding

Example

This example sets up Trunk Access Map 1 to contain Trunk Port 1 being outgoing only.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 0910
Enter the trunk access map number (1). Press the [Hold] key.	0910: Trk Access Map TAM No? 1
Enter the trunk port number (1). Press the [Hold] key	0910: TAM_01 Trk Port No? 1
Enter the trunk access code (1). Press the [Hold] key.	0910: TAM_01 TKP_01: 7-1
Enter the next trunk port number to continue with TAM 1. OR Press the [Hold] key again and enter the next TAM number OR Press the [Hold] key again to return to the command prompt.	0910: TAM_01 Trk Port No? 0910: Trk Access Map TAM No?

IN 0910

Defaults

Trunk Access Map number	Trunk Port Number	Trunk Access Code
1	1 to 10	7 Outgoing, Incoming and Holding
2to 10	All ports	0 (Not assigned)

IN 0911

Station Trunk Access Map This command defines which Trunk Access Map is accessed by a station. Stations can be allocated different Trunk Access Maps for different operating modes (Day, Night 1, Night 2).

Input Data

Field Name	Description	Input Data
Stn Port No.	The station port number	1 to 24
TAM(Day)	Trunk Access Map Day mode	0: Not defined 1 to 10
TAM(Night 1)	Trunk Access Map Night 1 mode	0: Not defined 1 to 10
TAM(Night 2)	Trunk Access Map Night 2 mode	0: Not defined 1 to 10

Example

This example assigns station port number 15 to Trunk Access Map 1 for Night 1 mode only.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 0911
Enter the station port number (15). Press the [Hold] key.	0911:Stn Trk Acc Map Stn Port No? 15
Enter the TAM number for Day mode (0 Not defined). Press the [Hold] again	0911: STP_0 15 TAM[Day]: 1 - 0
Press the [Hold] again Enter the TAM number for Night 2 mode (0 Not defined). Press the [Hold] again	0911: STP_0 15 TAM[Night 1]: 1-
Enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	0911: STP_0 15 TAM[Night 2]: 1 - 0 0911:Stn Trk Acc Map Stn Port No?

Defaults

Station Port	TAM (Day)	TAM (Night 1)	TAM (Night 2)
1 to 24	1	1	1

Station Type

This command defines the hardware settings assigned to a station port.

Input Data

Field Name	Description	Input Data
Stn Port No.	Station port number	1 to 24

When the station port is selected the system detects whether the port is for an SLT or a Keystation and displays the appropriate fields.

Single Line Telephones

Field Name	Description	Input Data
SLT Item	Single Line Telephone Settings	1: Decadic/DTMF 2: Message Wait Lamp 3: Loop Current 4: CODEC Gain type 5: Voice Mail port

Item No	Description	Input Data
1	Decadic/DTMF selection	0: Decadic 1: DTMF
2	Not available	
3	Loop Current selection	0: 20mA 1: 35mA
4	CODEC Gain type	1 to 5
5	Voice Mail port	0: Normal 1: Voice Mail

Keystations

Field Name	Description	Input Data
Kstn Item	Keystation settings	1: Stand Alone DCI 2: Exchange ring type 3: Intercom ring type

Item No	Description	Input Data
1	Stand Alone DCI	0: Keystation 1: Stand Alone DCI
2	Exchange King type	1: High 2: Middle 3: Low
3	Intercom Ring type	1: High 2: Middle 3: Low

IN 1001

Example

Two examples are shown below. The first sets an SLT on port 9 to a DTMF type. The second sets the exchange ring type to high for a keystation on port 6.

	Action	Display
Single Line Telephone	Enter the command number.	USER: TELECOM LUL: IN Enter Command> 1001
	Press the [Hold] key.	
	Enter the station port number (9).	1001:Station Type Stn Port No? 9
	Press the [Hold] key.	
	Enter the single line telephone item number(1).	1001: STP_009 SLT Item? 1
	Press the [Hold] key.	
	Enter the item input data (1).	1001: STP_009 ITEM-l: 0-l
	Press the [Hold] key.	
	Enter the next item number to continue entering data for this telephone OR	1001: STP_009 SLT Item?
	Press the [Hold] key again to return to the command prompt.	1001: Station Type Stn Port No?
Keystution	Enter the station port number (6).	1001: Station Type Stn Port. No? 6
	Press the [Hold] key.	
	Enter the keystation item number (2).	1001: STP_006 KStn Item? 2
	Press the [Hold] key.	
	Enter the item input data (1).	1001: STP_006 ITEM,2: 0-l
	Press the [Hold] key.	
	Enter the next item number to continue entering data for this keystation OR	1001: STP_006 KStn Item?
	Press the [Hold] key again and enter the next port number selection OR	1001: Station Type Stn Port No?
	Press the [Hold] key again to return to the command prompt.	

Defaults

The default settings depend on the type of circuit board installed.

For Single Line Telephones

Item Number	Feature	Selection
1	Decadic/DTMF	0 (Decadic)
2	Not available	
3	Loop Current	0 (20mA)
4	CODEC Gain type	1 (CODEC Gain 1)
5	Voice Mail port	0 (Normal)

For Keystations

Item Number	Feature	Selection
1	Stand Alone DCI	0 (Keystation)
2	Exchange Ring type	2 (Middle)
3	Intercom Ring type	2 (Middle)

SA1002

Station Restriction Class

This command assigns the Restriction Class for each station. The information contained in the restriction classes is shown below.

Class 1 Unrestricted Access.

Class 2 Calls are barred when the Initial digits of a dialled number agree with a "Bar IDD No." programmed in Command 0701. All other calls are unrestricted.
This class can be used to provide full IDD barring or selective IDD barring according to the "Bar IDD" numbers programmed. If no "Bar IDD" numbers are programmed then IDD access is unrestricted.

Class 3 IDD and STD access is limited to allowed codes or numbers programmed as "Alw STD/IDD No." in Command 0701. All other IDD and STD numbers are barred. All dialled numbers other than allowed STD/IDD numbers will be barred if they exceed the "Digit Limit" programmed in Command 0701.
Class 3 is generally used to restrict users to local calls and allowed STD and IDD numbers.

class 4 Calls are barred when the initial digits of a dialled number agree with "Bar IDD No." or "Bar STD No." programmed in Command 0701. Other calls are barred if the dialled number exceeds the "Digit Limit" programmed in Command 0701.
Class 4 is generally used to restrict users to local calls.

Class 5 Where the Commander D is behind a PABX, outgoing calls from the PABX can be barred by programming the PABX Trunk access code in the "PBX Acs No." field in Command 0701.
This class is used to allow only internal Commander D calls and calls to internal PABX extensions.

Class 6 All outgoing calls are barred. Only internal calls are allowed.

Dialled numbers which begin with codes programmed in "COM_ALW No." in Command 0701 are allowed in all classes above.

Input Data

Field Name	Description	Input Data
Stn Port No.	Station port number	0: not defined 1 to 24
Cls(Day)	Restriction Class number in Day mode	0: not defined. 1 to 6
Cls(Night 1)	Restriction Class number in Night 1 mode	0: not defined 1 to 6
Cls(Night 2)	Restriction Class number in Night 2 mode	0: not defined. 1 to 6

SA1002

Example

This example assigns station port 13 to Restriction Class 2 in Day mode, Restriction Class 4 in Night 1 mode and Restriction Class 6 in Night 2 mode.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 1002
Enter the station port number (13). Press the [Hold] key.	1002: Restriction Cls Stn Port No? 13
Enter the Restriction class number for Day mode (2). Press the [Hold] key.	1002: STP_0 13 Cls[Day]: 1 - 2
Enter the Restriction class number for Night 1 mode (4). Press the [Hold] key.	1002: STP_013 Cls[Night 1]: 1 - 4
Enter the Restriction class number for Night 2 mode (6). Press the [Hold] key.	1002: STP_0 13 Cls[Night 2]: 1-6
Enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1002: Restriction Cls Stn Port No?

Defaults

The Restriction Class of all stations is set to 1 for all operation modes.

SA1003

Station Class of Service

This command assigns a Class of Service for each station.
Note: Refer to command 0406 for details of Class of Service assignment.Input Data

Field Name	Description	Input Data
Stn Port No.	Station port number	1 to 24
Cls(Day)	Station Class of Service number in Day mode	0: not defined. 1 to 10
Cls(Night 1)	Station Class of Service number in Night 1 mode	0: not defined. 1 to 10
Cls(Night 2)	Station Class of Service number in Night 2 mode	0: not defined. 1 to 10

This example assigns Class of Service to station port 21 as follows, Class of Service 2 in Day mode, Class of Service 4 in Night 1 mode and Class of Service 6 in Night 2 mode.

Action	Display
Enter the command number.	USER:TELECOM LVL: IN Enter Command> 1003
Press the [Hold] key.	
Enter the station port number (21).	1003: Stn Service Cls Stn Port No? 21
Press the [Hold] key.	
Enter the Class of Service number for Day mode (2).	1003: STP_021 Cls[Day]: 9-2
Press the [Hold] key.	
Enter the Class of Service number for Night 1 mode (4).	1003: STP_021 Cls[Night 1]: 9-4
Press the [Hold] key.	
Enter the Class of Service number for Night 2 mode (6).	1003: STP_021 Cls[Night 2]:9-6
Press the [Hold] key.	
Enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1003:Stn Service Cls Stn Port No?

Defaults

All stations have Class of Service 9 for all operation modes.

IN 1005

Station Group

This command assigns a group number to each station port and sets the order number in the group.

Input Data

Field Name	Description	Input Data
Stn Port No.	Station port number	1 to 24
Stn Group No.	The Station Group number 1 to4	0: not defined.
Order No. Station Group	The order number in the 1 to 24	0: not defined.

Example

This example assigns station port 21 to station group 1 and sets the order number to 3.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 1005
Enter the station port number (21). Press the [Hold] key.	1005: Station Group Stn Port No? 21
Enter the station group number (1). Press the [Hold] key.	1005: STP_021 Stn Group No:0-1
Enter the order number (3). Press the [Hold] key.	100: STP_021 Order No: 0-3
Enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt,	1005: Station Group Stn Port No?

Defaults

All Station Groups and order numbers are set to '0'

SA1006

Keystation Line Key Programming

This command assigns exchange lines and key functions to a keystation's programmable line keys.

Input Data

Field Name	Description	Input Data
KStn Port No.	The keystation port number	1 to 24
Key No.	The line key number	1 to 32
Code	The line key assignment	0: Not assigned 1 to 10: Trunk Ports 1000 to 1050: Key function number
Add (Only for Code 1005)	The password	Must be four digits

Key Function Codes

Key Function Number	Function Name
1000	Camp on
1001	Divert
1002	Follow Me
1003	Monitor
1004	Conference
1005	Night key
1006	Line access
1007	Line Group access
1008	Group Pick Up
1009	Other Group Pick Up
1010	Direct Group Pick Up
1011	Internal Paging group
1012	Internal Paging All
1013	-Reserve&
1014	External Paging All
1015	Transmitter Mute
1016	Buzz
1017	Bypass Call
1018	Break In
1019	Message Waiting
1020	Text Message
1021	Headset mode change
1022	Meet Me set or answer

SA1006

Key Function Number	Function Name
1023	Call For
1024	Data
1025	Data Privacy
1026	Paging All Call
1027	Signal/Voice change
1028	Current Charge for Call (ISDN)
1029	Charge for Call Continuous (ISDN)
1030	Charge at End of Call (ISDN)
1031	Malicious Call Trace (ISDN)
1032	Account Code
1033	DSS Station, DSS Key Assignment
1034	System Alarm Lamp
103550	Reserved

Example

In this example key 17 on keystation port number 1 is programmed for Group pick-up.

Action	Display
Enter the command number.	USER: TELECOM LUL: IN Enter Command> 1006
press the [Hold] key.	
Enter the station port number (1).	1006: KStn Prog Key KStn Port No? 1
Press the [Hold] key.	
Enter the Key number (17).	1006:KSP_001 Key No? 17
Press the [Hold] key.	
Enter the function code (1008).	1006: KSP_001 KEY_17 Code: 0-1008
Press the [Hold] key.	
Enter the next Key number to continue entering data for this keystation OR	1006:KSP_001 Key No?
press the [Hold] key again and enter the next station port number to continue in this command OR	1006:KStn Prog Key Stn Port No?
Press the [Hold] key again to return to the command prompt.	

SA1006

Defaults

All keystations have the following default key assignments:

Key Number	Code	Function
1 to 8	1 to 8	Exchange Lines 1 to 8
9	1019	Messaage Wait
10	1000	Call Back
11	1001	Divert
12	1004	Conference
13	1008	Group Pick up
14	1011	Internal Paging Group
15	1012	Internal Paging All
16	1002	Follow Me
17 - 32	0	Not Defined

Note: Stations with Classes of Service 1 to 5 are unable to individually program their line keys. Classes of Service 6 to 10 permit line key programming.

SA1007

Keystation DSS Key Programming

This command assigns station numbers and Speed Dial numbers to the keystation DSS keys.

Input Data

Field Name	Description	Input Data
KStn Port No.	The keystation port number	1 to 24
Item No.	Type of number	1: Intercom number 2: Repertory number
Key No.	DSS key number	1 to 10
Key-(01-10)	The dial code assigned to the key	Refer to the table below for details

Dial Codes

Type of number	Number	Dial code
1: Intercom	Up to 4 digits	The dii code for a station
2: Repertory	0	Not defined
	1 to 100	The Common Speed Dial access number
	541 to 550	The Personal Speed Dial access number (see note)

Note: Any number in the range 541-550 is converted to the actual address of the Speed Dial for that station.

Example

This example assigns the intercom number 120 to DSS key 8 on keystation port number 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 1007
Enter the station port number (1). Press the [Hold] key.	1007:KStn DSS Key KStn Port No? 1
Enter the Item Number (1). Press the [Hold] key.	1007: KSP_001 Item No? 1
Enter the DSS key number (8). Press the [Hold] key.	1007:Intercom KSP_001 Key No? 8

SA1007

Action	Display
Enter the DSS dial code (120).	1007: Intercom KSP_001 KEY_08: -120
Press the [Hold] key.	
Enter the next DSS Key number to continue entering intercom numbers OR Press the [Hold] key again and enter the next Item Number OR Press the [Hold] key again and enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1007: Intercom KSP_001 Key No? 1007: KSP_001 Item No? 1007: KStn DSS Key Stn Port No?

Defaults

Key Number	DSS	Speed Dial Number
Key-01	101	541
Key-02	102	542
Key-03	103	543
Key_04	104	544
Key-OS	105	545
Key_06	106	546
Key_07	107	547
Key-08	108	548
Key_09	109	549
Key-10	110	550

SA 1008

Station Options

This command determines the following options for each station:

1 If an SMDR printout is enabled.

2 If auto seizing is enabled for either an internal or external line.

Input Data

Field Name	Description	Input Data
Stn Port No.	The station port number	1 to 24
Item No.	The item number	1: SMDR printout selection 2: Internal line auto seizing 3: External line auto seizing 4 to 8 Reserved
ITEM_(1-8)	The option number	Refer to table below

Option Item Number	Description	Input Data
1	SMDR printout	0: Disable printing 1: Enable printing
2	Internal auto line seizing	0: OFF 1: ON
3	External auto line seizing	0: OFF 1: ON
4 to 8	Reserved	

Example

This example disables SMDR printing for station port number 15.

Action	Display
Enter the command number.	USER:TELECOM LVL: IN Enter Command> 1008
press the [Hold] key.	
Enter the station port number (15).	1008: Station Option KStn Port No? 15
press the [Hold] key.	
Enter the Item Number (1).	1008: STP_015 Item No? 1
press the [Hold] key.	
Enter the option number (0).	1008: STP_0 15 ITEM_1:1 0
press the [Hold] key.	

SA 1008

Action	Display
Enter the next Item Number to continue entering data for this station port OR Press the [Hold] key again and enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1008: STP_015 Item No? 1008: Station Option KStn Port No?

Defaults

All stations have the following option settings:

Item Number	Description	Setting
1	SMDR printout	1: Printing enabled
2	Internal line auto seizing	1: ON
3	External line **auto** seizing	0: OFF

Note :

1. If a station is programmed for both internal and external auto line seizing, then an external line is seized when the handset is lifted and an internal line seized when the [Speaker] key is pressed.
2. Station User Guides have been written for the default **values** Keystation users should be informed if any changes are made in this command.

SA1009

Break In Level

This command defmes the level at which a station can break into an established call.

Input Data

Field Name	Description	Input Data
Stn Port No.	The station port number	1 to 24
STP_(l-24)	Break in level	0: Not defined 1:Exchange/Intercom calls 2:Intercom calls 3:Priority ringing

Example

This example allows station port number 21 to break into Intercom calls only.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 1009
Enter the station port number (21). Press the [Hold] key.	1009:Break In Level KStn Port No? 21
Enter the break in level (2). Press the [Hold] key.	1009:Break In Level STP_021:1-2
Enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1009:Break In Level KStn Port No?

Defaults

All stations have the Break In Level set to 1 (Exchange/Intercom calls)

Note:

1. The station class of service determines whether or not the station is allowed to use the break in facility.
2. Priority ringing allows the station breaking in to jump to the top of the queue of calls ringing at the station.

SA 1010

Secretary Port Assign

This command defines the secretary port for a manager station. This will determine where the manager's calls are diverted to while Do Not Disturb is activated.

Input Data

Field Name	Description	Input Data
Mngr-Stn Port	The manager's station port number	1 to 24
STN_(l-24)	The secretary's station port number	0: Not assigned 1 to 24 ,

ExampleThis example assigns station port 10 as a secretary for the manager's station port 12.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 1 0 1 0
Enter the manager's station port number (12). Press the [Hold] key.	1010: Mngr-Secretary Mngr-Stn Port? 12
Enter the secretary's station port number (10). Press the [Hold] key.	1010:Mngr-Secretary STP_012:0-10
Enter the next manager's station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1010:Mngr-Secretary Mngr-Stn Port?

Defaults

All stations have the secretary port set to 0 (not assigned)

Note:

1. Several managers can share the same secretary.
2. A secretary station can also be assigned as a manager station, but cannot operate as both at the same time.

IN 1012

Keystation Programmable Key Initialisation

The command is used to initialise the keystation's programmable keys for incoming and outgoing exchange call access.

The keys are initialised in accordance with the following system data:

- Trunk Access Map
- Station/Trunk access group

Note: This command is used after the above system data has been entered. (Refer to commands 0905, 0906, 0907, 0908, 0910, 0911)

Input Data

Field Name	Description	Input Data
KStn Port No.	Keystation port number.	0: All keystations 1 to 24 Port number
Initial(Yes: 1)	Enable/disable initialisation	1: Enable [Hold] Aborts

Example

This example enables initialisation of keystation port 1 only.

Action	Display
Enter the command number. press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 1012
Enter keystation port number (1). Press the [Hold] key.	1012:Prog Key Init. KStn Port No? 1
Enter the initialisation enable code (1). Press the [Hold] key.	1012: KSP_00 1 Initial[Yes:1]: 1
Enter the next trunk port number to continue in this command OR press the [Hold] keyand enter the next keystation port number OR Press the [Hold] key again to return to the command prompt.	1012: KSP_00 1 Initialised! 1012:Prog Key Init. KStn Port No?

Defaults

None

IN 1104

Operator Port Assign

This command assigns a keysmion port as an Operator port.

Input Data

Field Name	Description	Input Data
Operator	The Operator port number	0: Not assigned 1 to 24

Example

This example assigns keystation port 8 as the Operator port.

Action	Display
Enter the command number.	USER: TELECOM LVL: I N Enter Command> 1104
Press the [Hold] key.	
Enter the keystation port number (8).	1101: Operator Assign PORT: 0-8
Press the [Hold] key.	

Defaults

None

IN 1105

DSS Station Set

This command assigns a keystation port as a DSS Station Port.

Input Data

Field Name	Description	Input Data
Port No.	The DSS Station port number	1 to 24

Example

This example sets keystation port 8 as a DSS Station port.

Action	Display
Enter the command number.	USER:TELECOM LVL:IN Enter Command> 1105
Press the [Hold] key.	
Enter the keystation port number (8).	1105:DSS Station Set Port No? 8
Press the [Hold] key.	1185: DSS Station Set Assigned
Press the [Hold] key again to return to the command prompt.	

Defaults

None

SA 1201

DCI Initial Type

This command defines the operational parameters for a DCI initial type. A DCI initial type is then allocated to each DCI in command SA 1202..

Input Data

Field Name	Description	Input Data
Type No.	Initial data type number	1 to 5
Item No.	Register type	1: S-Register 2: LAPB Register (See Tables below for details)
Register No (If Item 1 is selected)	The S-Register number	1 to66
Data	Data for the S-Register	(See table below)

LAPB-Register Data

Field Name	Description	Input Data
T1(Int)	l-frame acknowledge check timer for Int.	3 to 65535 (msec)
T2(Int)	I-frame acknowledge send delay for Int.	D to 65535 (msec)
N1 (Int)	l-frame maximum field length for Int.	D to 65535 (bits)
N2(Int)	l-frame resend time maximum for Int.	D to 65535 times
K(Int)	Number of Frames	0 to 7
T1(Ext)	I-frame acknowledge check timer for Ext	0 to 65535 (msec)
T2(Ext)	I-frame acknowledge send delay for Ext.	0 to 65535 (msec)
N1(Ext)	I-frame maximum field length for Ext.	0 to 65535 (bits)
N2(Ext)	I-frame resend time maximum for Ext.	0 to 65535 times
K(Ext)	Number of Frames	oto7

S-Register Data

S-Register Number	Description	Input Data
0	Auto answer time (2 to 5 10 secs)	0: auto answer disabled 1 to 255 (Seconds / 2)
1	Ring count	0 to 255 (Seconds / 2)
2	Escape code	0 to 127 ASCII code (in decimal)
3	Carriage return code	0 to 127 ASCII code (in decimal)
4	Line feed code	0 to 127 ASCII code (in decimal)

S-Register Number	Description	Input Data
5	Backspace code	0 to 127 ASCII code (in decimal)
7	Carrier wait time	1 to 255 (Seconds)
9	Carrier detect time	1 to 255 (msec / 10)
10	Carrier not-detect time	1 to 255 (msec / 10)
12	Escape code guard time	0 to 255 (msec / 20)
25	ER delay	1 to 255 (msec / 10)
51	Packet size	0 to 255 (bytes)
52	Terminate code	0 to 127 ASCII code (in decimal)
53	Data timer	0 to 255 (msec / 50)
54	Result code data	
Result	Result code	0: Enable sending 1: Disable sending
Result-Type	Result code type	0: Digit 1: Word
Result-Mode	Result code mode	0: Basic 1: Expand #1 2: Expand #2 3: Expand #3 4: Expand #4
65	Transmission data	
Baud-Rate	Baud rate	1: 300 bps 2: 600 bps 3: 1200 bps 4: 2400 bps 5: 4800 bps 6: 9600 bps 7: 19200 bps
Stop-Bit	Stop bit	0: Stop bit-l 1: Stop bit-2
CHAR-LEN	Character length	0: 7-bits 1: 8-bits
Parity	Parity	0: None 1: -reserved- 2: Odd 3: Even
66		
RS_Timing	RS on timing	0: Control 1: Always
ER_Timing	ER on timing	0: Control 1: Always
CS_Timing	CS on timing	0: Control 1: Same to RS timing
Flow-Cont	Flow control	0: None 1: RS/CS 2: X-ON/OFF terminate 3: X-ON/OFF transparent

SA1201

Example

In this example, the auto answer time is set to 10 seconds and baud rate is set to 9600 with odd parity.

Action	Display
Enter the command number. press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 1201
Enter the DCI initial data type (1). press the [Hold] key.	1201:DCI Init. Data Type No? 1
Enter the Register type (I). press the [Hold] key.	1201: TYPE_1 Item No? 1
Enter the S-Register number (0). Press the [Hold] key.	1201:TYPE_1 S_REG Register No? 0
Enter the S-Register data (5) (10 seconds). Press the [Hold] key.	1201: TYPE_1S_REG_00 Data: 0-5
Enter the next S-Register number (65). press the [Hold] key.	1201: TYPE-1 S_REG Register No? 65
Enter the S-Register data (6) (9600). Press the [Hold] key three times.	1201:TYPE_1 S_REG_65 Baud_Rate: 3-6
Enter the next S-Register data (2). press the [Hold] key.	1201:TYPE_1 S_REG_65 Parity : 3 - 2
Enter the next register number to continue entering data for this item number OR	1201: TYPE-1 S_REG Register No?
Press the [Hold] key again and enter the next item number to continue entering data for this data type OR	1201: TYPE-1 Item No?
press the [Hold key again and enter the next DCI initial data type to continue ibn this command OR	1201:DCI Init. Data Type No?
Press the [Hold] key again to return to the command prompt.	

Defaults

The following defaults apply to Type 1. Types 2 to 5 have all register data set to 0 (not defined)

S-Register Data

S-Register Number	Data
S-REG(0)	0 (Disabled)
S-REG(1)	0 (0 sec)
S-REG(2)	43 (2BH = '+')
S-REG(3)	13 (ODH = CR)
S-REG(4)	10 (OAH = LF)
S-REG(5)	8 (08H = BS)
S-REG(7)	30 (30 sec)
S-REG(9)	6 (60 msec)
S-REG(10)	14 (140 msec)
S-REG(12)	50 (1000 msec)
S-REG(25)	5 (50 msec)
S-REG(61)	255 (255 byte)
S-REG(62)	13 (ODH = CR)
S-REG(63)	1 (50 msec)
S-REG(64):	
Result code	0 (Send)
Result code type	1 (Word)
Result code mode	0 (Basic)
S-REG(65):	
Baud Rate	6 (9600 bps)
Stop Bit	0 (Stop bit-l)
Char Length	1 (8-bits)
Parity	3 (even)
S-REG(66):	
RS On Timing	1 (Always)
ER On Timing	0 (None)
CS On Timing	0 (Control)
Flow Control	0 (none)

LAPB Register Data

Register Field	Data
T1(Int)	500 msec
T2(Int)	250 msec
N 1 (Int)	2080 bits
N2(Int)	20 times
K(Int)	7 frames
T1(Ext)	2000 msec
T2(Ext)	1000 msec
N1(Ext)	2080 bits
N2(Ext)	7 times
K(Ext)	7 frames

SA 1201

The decimal equivalents for standard keyboard characters are provided in the following table:

Decimal Equivalent	Standard keyboard	Decimal equivalent	Standard keyboard	Decimal equivalent	Standard keyboard	Decimal equivalent	Standard keyboard
0	Ctrl 2	32	Spacebar?	64	@	96	‘
1	Crtl A	33	!	65	A	97	a
2	Crtl B	34	“	66	B	98	b
3	Crtl C	35	#	67	C	99	c
4	Crtl D	36	$	68	D	100	d
5	Crtl E	37	%	69	E	101	e
6	Crtl F	38	&	70	F	102	f
7	Crtl G	39		71	G	103	g
8	Crtl H,’	40	(	72	H	104	h
9	Crtl I	41	)	73	I	105	i
10	Crtl J,↵	42	*	74	J	106	j
11	Crtl K	43	+	75	K	107	k
12	Crtl L	44	,	76	L	108	l
13	Crtl M,J,Shift J	45		77	M	109	m
14	Crtl N	46		78	N	110	n
15	Crtl O	47	/	79	O	111	o
16	Crtl P	48	0	80	P	112	p
17	Crtl Q	49	1	81	Q	113	q
18	Crtl R	50	2	82	R	114	r
19	Crtl S	51	3	83	S	115	s
20	Crtl T	52	4	84	T	116	t
21	Crtl U	53	5	85	U	117	u
22	Crtl V	54	6	86	V	118	v
23	Crtl w	55	7	87	W	119	w
24	Crtl X	56	8	88	X	120	x
25	Crtl Y	57	9	89	Y	121	y
26	Crtl Z	58		90	Z	122	z
27	Crtl [,[2]	59	;	91	[	123	{
28	Crtl \	60	<	92	\	124	|
29	Crtl]	61	+	93	]	125	}
30	Crtl 6	62	>	94	^	126	~
31	Crtl -	63	?	95	_	127	Ctrl-

[1] or backspace or shift backspace [2] or Esc. or Ctrl Esc. [3] or Shift space or Alt space

DCI Port Type

This command defines the DCI port type.

Input Data

Field Name	Description	Input Data
DCI Port No.	The DCI (keystation) port number	1 to24
DCI Type	The DCI port type	0: none 1: Serial (Hayes AT-Command) 2: Parallel 3 - 255: reserved
DCI Sub Type	The DCI initial type number Note: This field is only completed if the DCI port type is 1. Press [Hold] for other types.	1 to 5

Example

In this example, DCI port 1 is set up as a serial port with a DCI initial type number of 2.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 1202
Enter the DCI (keystation) port number (1). Press the [Hold] key.	1202:DCI Port Type DCI Port No? 1
Press the [Hold] key.	1202: DCP_00 1 DCI Type: 1-
Enter the DCI sub type (2). Press the [Hold] key.	1202: DCP_00 1 DCI Sub Type:1-2
Enter the next DCI (keystation) port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1202:DCI Port Type DCI Port No?

Defaults

All DCI ports have the following defaults:

Field	Setting
DCI Type	1 (Serial)
DCI Sub Type	1 (DCI Initial Type Number 1)

IN 1204

DCI Group

This command assigns a group number to each DCI port.

Field Name	Description	Input Data
DCI Port No.	The DCI (keystation) port number	1 to 24
DCI Group No.	The DCI group number	0: not defined 1-4
Order No.	The order number in each DCI group	0: not defined 1 to 24

Example

In this example, DCI port 4 is assigned to DCI group 2 and sets its order within that group to 4.

Action	Display
Enter the command number. press the [Hold] key.	USER: TELECOM LVL: IN Enter Command> 1204
Enter the DCI (keystation) port number (4). press the [Hold] key.	1204: DCI Group DCI Port No? 4
Enter the DCI group number (2). Press the [Hold] key.	1204: DCP_004 DCI Group No: 1-2
Enter the order number (4). press the [Hold] key.	1204: DCP_004 Order No: 1-4
Enter the next DCI (keystation) port number to continue in this command OR press the [Hold] key again to return to the command prompt.	1204: DCI Group DCI Port No?

Defaults

DCI Port Number	Group Number	Order
1 to 10	1	1 to 10
11 to 20	2	11 to20
21 to 24	3	21 to 24

SA1205

DCI Restriction Class

This command assigns the restriction class for each DCI.

Note: All restriction tables and notes are the same as Command SA 1002.

Input Data

Field Name	Description	Input Data
DCI Port No.	The DC1 (keystation) port number	1 to 24
Cls(Day)	Restriction class number in Day mode	0: **not** defined 1 to6
Cls(Night 1)	Restriction class number in Night 1 mode	0: not defined lto6
Cls(Night 2)	Restriction class number in Night **2** mode	0: not defined 1 to 6

Example

This example assigns DCI port 4 to restriction class 2 in Day and Night *1* modes, and restriction class 3 in Night 2 mode.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 1205
Enter the DCI (keystation) port number (4). Press the [Hold] key.	1205:Restriction Cls DCI Port No? 4
Enter the restriction class number in Day mode (2). Press the [Hold] key.	1205: DCP_004 Cls[Day]: 1-2
Enter the restriction class number in Night 1 mode (2). Press the [Hold] key.	1205: DCP_004 Cls[Night 1]: 1-2
Enter the restriction class number in Night 2 mode (3). Press the [Hold] key.	1205: DCP_004 Cls[Night 23: 1-3
Enter the next DCI (keystation) port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1205:Restriction Cls DCI Port No?

Defaults

All DCIs have the restriction class set to 1 for all modes of operation.

SA1206

DCI Hotline Pair

This command defines the originating and destination DCI of DCI hotline pairs. The system can accommodate up to 10 Hotline DCI pairs.

Input Data

Field Name	Description	Input Data
Hotline No.	The DCI Hotline number	1 to 10
Origin	The originating DCI dial number	Up to 4 digits
Target	The target DCI dial number	Up to 4 digits

Example

This example defines the DCI Hotline pair number 1. The originating DCI number is 11 and the target DCI number is 18.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter Command> 1206
Enter the Hotline number (1). Press the [Hold] key.	1206: Hot.1 ine for DCI Hotline No? 1
Enter the originating DCI number (11). Press the [Hold] key.	1206: HOT-01 Origin:-11
Enter the target DCI number (18). Press the [Hold] key.	1206: HOT_01 Target:- 18
Enter the next Hotline pair number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1206:Hotline for DCI DCI Port No?

Defaults

None.

SA1207

DCI S-Register Initialisation

This command initialises DCI ports to the Sub Type allocated in command 1202. The command can apply to an individual DCI port or to all DCI ports.

Input Data

Field Name	Description	Input Data
DCI Port No.	The DCI (Keystation) number	0: All ports 1 to 24

Example

This example initialises DCI port 5.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL: IN Enter Command> 1207
Enter the DCI number (5). (Enter 0 for ALL ports) Press the [Hold] key.	1207:DCI S-Reg Init DCI Port No? 5
Press the [Hold] key.	1207: DCI S-Reg Init DCP-005 Initial
Enter the next DCI number to continue in this command. OR Press the [Hold] key again to return to the command prompt.	1207: DCI S-Reg Init DCI Port No?

Defaults

None.

SA 1301

Door Station Ring Assign

This command defines which stations will ring when the door station is activated.

Field Name	Description	Input Data
Stn Port No.	Station Port number	1 to 24
Door Stn	Enable/Disable station ringing	0: Disable ringing 1: Enable ringing

Example

This example assigns station port number 6 to ring when the door station is activated.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL:IN Enter Command> 1301
Enter the station port number (6) Press the [Hold] key.	1301: DStn Rng Assign Stn Port No? 6
Enter the enable/disable code (1) Press the [Hold] key.	1301: STP_03 Door Stn: 0 - 1
Enter the next station port number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1301: DStn Rng Assign Stn Port No?

Defaults

All stations are disabled for ringing.

SA 1401

Internal Paging Group

This command assigns a Station Group to an Internal Paging Group.

Field Name	Description	Input Data
Stn Group No.	The station group number	1 to4
STG_(001-004)	Internal Paging Group number	1 to 2

Example

In this example, station group 3 is assigned to internal paging group 1.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: IN Enter Command> 1401
Enter the Station Group number (3) Press the [Hold] key.	1401: Int Page Group Stn Group No? 3
Enter the Internal Paging Group number (1) Press the [Hold] key.	1401: STG_003:0-1
Enter the next Station Group number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1401: Int Page Group Stn Group No?

Defaults

None.

SA1402

Internal Paging Group Name

This command defines the name of an Internal Paging Group.

Input Data

Field Name	Description	Input Data
Int Pge Gp No.	Internal paging group number	1 or 2
IPG_(01-02)	The internal paging group name	Up to 8 alphanumeric characters

Example

The following example assigns the name "SALES" to Internal Paging Group 2.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 1402
Enter the Internal Paging Group number (2) Press the [Hold] key.	1402: Int PgeGp Name Int PgeGp No? 2
Enter the Internal Paging Group name (SALES) Press the [Hold] key.	1402: IPG_02 ZONE 2 -SALES
Enter the next Internal Paging Group number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1402: Int PgeGp Name Int PgeGp No?

Defaults

Internal Paging Group Number	Internal Paging Group Name
IPG_0 1	ZONE 1
IPG_02	ZONE 2

SA1403

External Paging Speaker Control Data

This command defines the control data for the external speaker. For example whether a splash tone is to be heard at the beginning of an external paging call or if background music is required.

Input Data

Field Name	Description	Input Data
Item No.	Control item number	1: Splash tone 2: Background music 3 to 8 Reserved
ITEM_(01- 08)	The enable/disable code	0: Disabled 1: Enable

The following example assigns background music to the external speaker.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 1403
Enter the Item Number (2) Press the [Hold] key.	1403: Ext-Spk Data Item No? 2
Enter the Enable code.(1). Press the [Hold] key.	1403: Ext-Spk Data ITEM,02: 0-l
Enter the next Item Number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1403: Ext-Spk Data Item No?

Defaults

Item Number	Description	Default
ITEM-01	Splash Tone	1: Enabled
ITEM-02	Background Music	0: Disabled

SA1404

External Speaker Ringing Condition

This command defines which external lines will ring over the external paging speaker.

Input Data

Field Name	Description	Input Data
Trk Port No.	The trunk port number	1 to 10
Ring(Day)	Enable/disable ring in Day mode	0: Disabled 1: Enable
Ring(Night 1)	Enable/disable ring in Night 1 mode	0: Disabled 1: Enable
Ring(Night 2)	Enable/disable ring in Night 2 mode	0: Disabled 1: Enable

Example

The following example enables incoming calls on trunk port 1 to ring over the exteml speakers at all time.

Action	Display
Enter the command number. Press the [Hold] key.	USER: TELECOM LVL: I N Enter Command> 1404
Enter the Trunk Port number (1) Press the [Hold] key.	1404: Ext-Spk Ringing Trk Port No? 1
Enter the Enable code (1) for Day mode. Press the [Hold] key.	1404: TKP_01 Ring[Day]: 0-1
Enter the Enable code (1) for Night 1 mode. Press the [Hold] key.	1404: TKP_01 Ring[Night 1]: 0-1
Enter the Enable code (1) for Night 2 mode. Press the [Hold] key.	1404: TKP_01 Ring[Night 2]: 0-1
Enter the next Item Number to continue in this command OR Press the [Hold] key again to return to the command prompt.	1404: Ext-Spk Rinsing Trk Port No?

Defaults

All lines are disabled for ringing over the external speaker.

Chapter Four
System Maintenance

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Chapter Four
System Maintenance

Introduction

This chapter describes the maintenance procedures to be followed in the event of a fault occurring in the Telecom Commander D32. The chapter covers basic faulting procedures, gives details of system alarm reports and lists the programming commands relevant to specific board types and other miscellaneous items.

System alarm reports can be viewed on a display keystation or, if a printer is available, they can be printed out. Some procedures suggested in this chapter will only be possible if a printer, PC or data terminal is available and connected to the system via a Data Communications Interface (DCI). However, in most cases, it should be possible to correct faulty systems without the use of a printer.

It is assumed that the technician has been called for one of the following reasons:

- The system has generated an alarm.
- The customer complains of a facility fault.

In either event the fault finding procedure is the same. The steps are:

1. Determine if a fault actually exists and is not due to mis-operation or an incorrect interpretation of system facilities.
2. Obtain a printout of the alarms or view them on a keystation and observe any other alarm indicators.
3. Obtain a printout of the System Information using command 0005.
4. Using the information obtained from 1, 2 and 3, attempt to isolate the fault, ie: PBA, station, facility, etc.
5. Replace or correct the faulty unit.
6. Check the relevant programming commands.

WARNING

The main equipment must be protected from possible surges of current down connected exchange lines. Always ensure:

1. The mains cord is plugged into the mains power outlet (GPO), the outlet can be turned off

   OR

2. Isolate the exchange lines at a Distribution Frame.

Customer Data Record

When the installation of a Telecom Commander D32 has been completed, the original System Order Forms must be updated, by the installer, to show any programming changes made during the installation. The System Order Form then becomes the system's Customer Data record and is stored at the Main Equipment.

The installer must give a copy of the updated System Order Form to the System Administrator for inclusion in the System Administration Manual. It is essential that any programming changes made to the system are recorded on the System Order Form programming sheets located in the Customer Data record and in the System Administration Manual. Any changes made at 'System Administration' level will be recorded in the System Administration Manual on the System Administration Forms. 'Installer' level changes are recorded directly on the original System Order Form programming sheets.

The System Administrator will not have access to the Customer Data record in the Main Equipment, therefore any changes made by the System Administrator will not be recorded on these forms. It is therefore important to check the System Administration Manual for any programming changes made by the System Administrator.

System Information Report

The System Information Report is obtained by using Programming Command 0005. A printer must be connected to an assigned DCI. An example of the report is shown below.

```
<< SYSTEM INFORMATION >>      02-DEC-92   13:00            Main software:  Ver.x.xx
                                                           Sub software:   Ver.x.x
  SYSTEM CONSTRUCTION: 408 + 004 + 208                     Backup battery:     OK

          = STATION PORT =
          +---01---+---02---+---03---+---04---+---05---+---06---+---07---+---08---+
 SLOT 0      KST      KST      KST      KST      KST      KST      KST      KST
             LCD      LCD      DCI      DCI                        LCD
                               LCD    HP_LCD
          +---09---+---10---+---11---+---12---+---13---+---14---+---15---+---16---+
 SLOT 1       STA      STA      STA      STA       -        -        -        -
            REC-OK   REC-OK   REC-OK   REC-OK

          +---17---+---18---+---19---+---20---+---21---+---22---+---23---+---24---+
 SLOT 2      KST      KST      KST      KST      KST     (KST)    (KST)    (KST)
             LCD      DCI
                      LCD
          = TRUNK PORT =
          +---01---+---02---+---03---+---04---+
 SLOT 0      ATRK     ATRK     ATRK     DOOR

          +---05---+---06---+
 SLOT 1       -        -

          +---07---+---08---+---09---+---10---+
 SLOT 2      ATRK     ATRK       -        -


          - LOOP BACK TEST RESULT =

               No errors detect.
```

The report can be broken up into three sections:

- The top section of the report shows the TITLE, DATE and TIME with the software versions in the right hand comer.

  BACKUP BATTERY indicates the condition of the RAM Battery.

  SYSTEM CONSTRUCTION identifies the boards that are installed in the main equipment.

- The middle section indicates the hardware connected to each port.

KST	Standard Keystation
KST	
LCD	Executive Keystation
KST	
HP-LCD	Premium Keystation
(KST)	Keystation not connected
DCI	DCI connected
STA	Analogue station
—	Not defined
ATRK	Analogue Trunk (PSTN)
ITRK	Digital Trunk (ISDN)
DOOR	Door Station
PAGE	External Paging Device

- The bottom section shows the results of an automatic Loop Back Test.

Keystation Faults

Keystations can be affected by faults from two sources:

- Hardware failure - such as a faulty station, wiring or system PBA.
- Software failure - errors in system programming that affect facilities such as ring groups and line access.

IMPORTANT

Alarm 0108 (Keystation disconnected) is normally programmed not to raise a Major or Minor Alarm indication or an alarm report printout. This is to prevent unwanted alarm reports when stations are disconnected by the system user. During maintenance these alarms can be viewed on Fault Report Keystations (see Command 0010) or, if required, a Minor Alarm indication and/or printout can be enabled by using Command 0008. The alarms should be disabled again before leaving site.

Keystation Hardware Faults - One Keystation Affected

Note: After each step check if the fault still exists before proceeding.

1. Use Command 0006 or 0010 to print out or view the system alarms. Refer to Appendix C for a description of each alarm and action required.
2. Check the station's wiring connections:
   - DDK connector at the Main Equipment
   - Main Equipment to station
   - Station plug and line cord
   - Handset
   - Handset cord
3. Initialise the station by unplugging and re-plugging the line cord.
4. Run the Station self test. Refer to page 4-6.
5. Check the station line voltage. The polarity does not matter, but the voltage should be approximately 48 v.

Keystation Software Faults - One Keystation Affected

It is unlikely that a system program error will affect an individual station in isolation. It is more likely that alterations made to the customer database will cause apparent facility faults. The database can be interrogated by using the programming commands.

Errors can occur if changes have been made to the database that have unintentionally affected other facilities.

The commands associated with each station will need to be interrogated to check the validity. Refer to Chapter 3 for command descriptions.

Note: Station facilities may be affected by the system operating mode, ie: Day, Night 1 or Night 2.

Keystation Hardware Faults - Multiple Keystations Affected

Faults that affect several stations are likely to be in common equipment such as an expansion board.

1. Use Command 0006 or 0010 to print out or view the system alarms. Refer to Appendix C for a description of each alarm and action to be taken.
2. Use the System Installation charts to determine if the affected stations are on the same expansion board.
3. Replace the faulty board.

Keystation Software Fault - Multiple Keystations Affected

Refer to the procedure for single keystation faults and interrogate commands that are related to common facilities.

Sihgle Line Telephone - Hardware Faults

1. Use Command 0006 or 0010 to print out or view the system alarms. Refer to Appendix C for a description of each alarm and action required.
2. Check the station's wiring connections:
   - DDK connector at the Main Equipment
   - Main Equipment to station
   - Station plug and line cord
   - Handset
   - Handset cord
3. Initialise the station by unplugging and m-plugging the line cord.
4. Check the station line voltage. The polarity does not matter, but the voltage should be approximately 48V.

Single Line Telephone - Software Faults

Refer to the procedure for locating software faults associated with keystations.

Note: Single Line Telephone facilities may be affected by the system operating mode, ie: Day, Nigh& 1 or Night 2.

Digital Station Self Test

Digital stations CM be tested using the Self Test facility. The test is in two parts, an automatic test followed by a **manual test.**

- Start **test** Press the [✱] key while plugging in line cord
- Stop test Press the [Call 11 key followed by digit 0

Automatic Test

1. The following message is displayed for 3 seconds:

```
Self Test in Progress
VRx.x [DD Month YYYY]
```

(DD MonthYYYY) = The date of the software release

2. All dots in the LCD are turned ON for 3 seconds.
3. Digits 0 to 3 are shifted across each column at 0.1 seconds per column.
4. The red LEDs on all line keys are turned ON for 1.3 seconds.
5. The red LEDs are turned OFF on the line keys, and the green LEDs turned ON for 1.3 seconds.
6. The red LEDs of all function keys and the MW LED are turned ON for 1.3 seconds.
7. The red LEDs of all DSS keys (not Premium stations) are turned ON for 1.3 seconds.
8. The message "Manual Test" is displayed on the screen.

Manual Test

Key Matrix and LCD Test To start this test, press the [Call 1] key followed by [1]. The following message will be displayed:

```
Key Matrix/LED Test
```

Whenever a key is pressed, the logical name for it will be displayed and the key-touch tone will **sound.** This tone has a duration of SO ms and a frequency of 580 Hz.

The key LEDs operate as follows:

1st operation Red LED
2nd operationGreen LED
3rd operation LED OFF

The message "OFF HOOK" is displayed by lifting the HANDSET and "ON HOOK" is displayed **when the** handset is replaced.

To exit this test and return to the "Manual Test" display, press the [Call 1] key followed by [✱].

Test Tone

To start this test, press the [Call 1] key followed by [2]. The following message will be displayed:TTest Tone:

```
Test Tone [1KHz]
```

A continuous 1 KHz tone will be sent to the speaker. This tone is muted when the handset is taken off hook.

To exit the test, press any key.

Note: To exit the station self test, ensure that the message "Manual Test" is displayed on the station's display. If this is not displayed, press the [Call 1] key followed by [*]. Then press the [Call 1] key followed by digit [O].

Exchange Line Faults

Exchange lines are connected to the Telecom Commander D32 via DDK connectors plugged directly into exchange line sockets on the Main Equipment. When a fault is reported on an exchange line, it is possible to determine if the fault is in the Telecom Commander D or its wiring, by isolating the line at the first termination point from the exchange. If the line is faulty at this point there is no need to search for faults inside the Telecom Commander D.

Note: Retest the fault after each step before proceeding to the next step.

Internal Exchange Line Faults

1. Use Command 0006 or 0010 to print out or view the system alarms. Refer to Appendix E for a description of each alarm and the action to be taken.
2. Relocate the line to a spare port, or interchange the line with a working line.
3. Check the programming.
4. If the fault still exists, a more in-depth investigation is required. If necessary, seek advice from the Technical Support Centre.

CPU Faults

Central Processing Unit (CPU)

The CPU performs the processing and control functions required by the system and its functional blocks. It provides the system alarm indicators.

The CPU board is central to the operation of the whole Commander D32 system. The following fault finding procedures generally involve taking the complete system out of service for periods of 10 minutes or more and this should be done by arrangement with the customer.

CPU Failure - Isolated Incident

Fault Symptoms

Degraded call handling
Reduced 'access to system functions

Resetting the Processor

Note: This procedure should only be implemented after possible faults in other areas have been eliminated.

1 Hot Start the system. Ensure that SWl-1, located on the CPU board, is in the OFF position and operate the reset switch (marked RES) located on the CPU board. Resetting the system in this way retains customer data in RAM but replaces system software.

2 If Hot Start does not correct the problem, switch SW1-1, located on the CPU Board, to the ON position and operate the reset switch (marked RES) located on the CPU Board. After the Commander D32 has reset, return SW1 on the CPU board to the OFF position. This mode of reset is termed "Cold Start".

WARNING

Resetting the system in this way will cause loss of all customer data

CPU Error - Regular Occurrence

The Telecom Commander D32 is a microprocessor-based system that fully depends on software for its operation. Although system software is extensively tested before being used commercially, sometimes unusual combinations of either customer data and/or operation may cause the processor to fail.

If the processor fails regularly for no apparent reason and other more common causes have been eliminated, you should contact the Technical Support Centre for assistance. Do not attempt to load alternate versions of software without prior consultation as this could result in compatibility problems.

RAM Battery Failure

The RAM is kept "live" during power failure with a RAM back-up battery. If this battery deteriorates, a major alarm will occur and the battery must be replaced.
If there has been loss of power without RAM battery support, insert the new battery and perform a "cold start".

Facilities and Associated Programming Commands

CPU Central Processor Unit

This board performs the overall control of the system.

Command	Use
0003:Date & Time Set	System date and time set
0005:System Info.	Prints out installation data for each port
0006:Alarm Report	Controls the system alarm printouts
0008:Alarm Set Up	Determines which alarm lamps light to indicate faults
0009:Fault to KStn	Assigns keystations to display fault reports
0010:Fault Report	Views fault reports on keystation display

Exchange Lines

Command	Use
0505:Trk Access Code	Defines the trunk access code
0901:Trunk Type	Defines the operating data for each trunk
0902:I/C Ringer Type	Defines the incoming ring type for each trunk
0903:Trunk Naming	Assigns a name to each trunk
090S:Trunk Group	Assigns a group number to each trunk port
0906:Route Set	Defines the routing access for trunks
0907:Route No Assign	Assigns each station to a trunk route
0909:Trk Assign IRG	Assigns trunks to incoming ring groups, depending on the operating mode
0910:Trk Access Map	Defines the trunk access maps
0911:Stn Trk Acc Map	Defines the trunk access map to be accessed by each station

ISDN Microlink

Command	Use
0016:ISDN Function	Enables ISDN Access to the system
0409:ISDN Called No	Defined incoming ISDN numbers for direction to a ring group
0410:ISDN Called IRG	Allocates ISDN call types to I/C ring groups
0905:Trunk Group	Assigns a trunk to a group
0906:Route Set	Defines the routing access for trunk
0907:Route No Assign	Assigns each station to a trunk route
0910:Trk Access Map	Defines the trunk access map
0911:Stn Trk Acc Map	Defines the trunk access maps

Keystations

Command	Use
0404:Hotline Assign	Assigns Hot line pairs
0406:Class Service	Assigns the 128 service facilities into 10 Classes of Service
0502:Stn Dial & Name	Defines the station access numbers and names
0503:Group Dial&Name	Defines the station group access code and group name
0907:Route No Assign	Assigns each station to a trunk route
0908:I/C Ring Group	Assigns stations to an incoming ring group
0911:Stn Trk Acc Map	Defines the trunk access map to be accessed by each station
1001:Station Type	Defines the station port hardware
1002:Restriction Cls	Assigns the restriction class to each station
1003:Stn Service Cls	Assigns a class of service to each station
1005:Station Group	Assigns the stations to station groups
1006:KStn Program Key	Defines the programmable line key data to each station
1007:KStn DSS Key	Assigns DSS key data to each station
1008:Station Option	Assigns station optional data such as SMDE printout and line seizure
1009:Break In Level	Defmes the level at which each station can break into an established call
1010:Mngr-Secretary	Assigns manager/secretary pairs

Single Line Telephones

Command	Use
0116:ASB-D-A Initial	Sets the timing data for analogue stations
0404:Hotline Assign	Assigns Hotline pairs
0406:Class Service	Assigns the 128 service facilities into 10 classes of service
0907:Route No Assign	Assigns each station to a trunk route
0908:I/C Ring Group	Assigns stations to an incoming ring group
0911:Stn Trk Acc Map	Defines the trunk access map to be accessed by each station
1001:Station Type	Defines the station port hardware
1002:Restriction Cls	Assigns the restriction class to each station
1003:Stn Service Cls	Assigns a class of service to each station
100S:Station Group	Assigns the stations to station groups
1008:Station Option	Assigns station optional data such as SMDR printout and line seizure
1009:Break In Level	Defines the level at which each station can break into an established call

Door Station/External Paging

Exchange line port four on the 408 Main Board can be allocate as either a Door Station port or an interface for an external paging device.

Command	Use
0129:Line #4 Mode	Sets the mode of operation for exchange line port 4 on the 408 Main Board
0504:Door Stn Access	Defines the door station access code
1301:DST Ring Assign	Defines the stations that will ring when a door station is activated
1403:Ext-Spk Data	Defines the control data for the external speaker
1404:Ext-Spk Ringing	Defines the type of ringing for the external speaker

Internal Paging

Command	Use
1401:Int Page Group	Defines the internal paging groups
1402:Int Pge Gp Name	Assigns the internal paging group names

Dialling

Command	Use
0501:Access Codes	Defines the access codes for system facilities
0506:Service Code	Defines the dialled data for each service code
0601:SPD Dial & Name	Defines the speed dial numbers and names
0602:Common SpD Area	Defines the system-common speed dial area
0701:Restriction Set	Defines the barred 'and allowed codes

Miscellaneous System Wide Commands

Command	Use
0201:Data Entry Pwd	Defines the user passwords for system programming
0202:Functions Pwd	Defines the passwords for setting the system clock, Night mode changeover and access barring override
0301:System Common	Defines system data
0303:SYS Option	Defines system-optional facilities such as melody type
0402:Text Messages	Defines the default text messages that can be stored by a station
0405:System Timer	Defines the values of the system common timers
0801:Day Pattern	Defines the operating modes for each tenant (Day, Night 1, Night 2)

Command	Use
0802:Week Schedule	Assigns the operating modes in a weekly schedule
0803:Year Schedule	Assigns the operating modes in a 12 month schedule to recognise special days such as public holidays
1104:Operator Assign	Assigns the operator port
1105:DSS Port Set	Defines the station port to be assigned as a DSS station

Station Message Detail Recording (SMDR)

Command	Use
0403:SMDR Operation	Defines the SMDR operating data
1008:Station Option	Assigns station-optional data such as SMDR printout and line seizure

DCI Programming

Command	Use
0507:DCG Dial & Name	Defines the DCI group access code and group name
1201:DCI Init. Data	Defines the DCI initial data
1202:DCI Port Type	Defines the DCI port type
1204:DCI Group	Assigns a group number to each DCI
1205:Restriction Cls	Defines the restriction class of each DCI
1206:Hotline for DCI	Defines a Hotline pair for DCIs
1207:DCI S-Reg Init	Defines the initial DCI S-Register data

Repair Procedures

All Items

Never attempt to repair a Commander D PBA or item on-site or in a field depot.

If a PBA is faulty, replace the entire PBA assembly.

Packaging

All faulty PBAs must be suitably packaged. Always pack PBAs in the conductive ANTI-STATIC bag and protective container that the new PBA was packed in. This ensures it is protected from further physical and/or static discharge damage.
Working PBAs must be packed in the same manner. Careless handling, storage or transportation can cause future or secondary faults.

All other faulty items must be packed in the same carton that was supplied with the new item.

Returning Items

Packaged PBAs and other items are to be returned promptly to your Region Store on a changeover basis.

A separate Customer Equipment Fault Report Label (E441), with a fault description written on it, must be attached to each faulty PBA package. Write as much detail as possible about the faulty condition.

Each Region Store keeps an accurate record of all PBAs dispatched and received to ensure that replacements are obtained on a one-for-one basis.

Chapter Five
System Additions

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Chapter Five
System Additions

General

This appendix is intended as a guide and quick reference to the programming required when a facility is to be added.

Adding an Expansion Board

The Main Equipment cabinet has space for two Expansion Boards. These are mounted on top of each other over the 408 Main board. Any of the D32 Expansion Boards may be located in either position, with the exception of the ISDN Board which must be uppermost and connected to CN6 and CN8.

Each Expansion Board is supplied with the following:

1 x 50way ribbon cable

1 x 64 way ribbon cable

5 x threaded stand offs

To install the first Expansion Board:

- Insert the 64 way ribbon cable into connector CN5 on the 408 Main board. Insert the other end of the ribbon cable into connector CN1 on the Expansion Board.
- Insert the 50 way ribbon cable into connector CN7 on the 408 Main board. Insert the other end of the ribbon cable into connector CN2 on the Expansion Board.
- Locate the Expansion Board on top of the 5 threaded stand-offs securing the 408 Main Board.
- Screw in the 5 threaded stand-offs, supplied with the Expansion Board, to secure the board into position.

To add a second expansion board insert the ribbon cables into connectors CN6 and CN8 on the 408 Main Board and proceed as above.

Note: When an expansion board is added to the system a cold start must be performed for the CPU to recognise the board. The whole system must then be reprogrammed.
At default the system will configure empty station slots as keystations. Therefore when adding a 208 board it may not be necessary to cold start the system.

Adding a Station

The system default settings allow a new station to function as soon as it is connected. The following items are used to modify the default settings to customise the installation if required. These commands apply to both keystations and Single Line Telephones.

Operation	Comment	Command
Give the station a number and name.	At default the station does not have a name. The number will be lxx, where xx is the station port number.	0502
Put the station into a Group.	This is necessary for other features to operate, such as Paging.	1005
Allocate a Trunk Route number.	This is required if trunk routes are being used.	0907
To change the Station Type settings.	Station type data covers items like DTMF or Decadic dialling for SLTs.	1001
To put the station into a Ring Group.	This is only necessary if the station is required to ring on incoming exchange line calls.	0908
To alter the station Class of Restriction.	This will alter the Access barring for the station.	1002
To alter the station Class of Service.	This limits the station's access to system features.	1003
To assign a Trunk Access Map to the station.	This controls the type of trunk access for each line key, according to the TAM.	0911

Adding an Exchange Line

The system default settings allow a new exchange line (PSTN) to function as soon as it is connected. The following items are used to modify the default settings to customise the installation if required.

Operation	Comment	Command
Give the exchange line a name.	The name will be shown on keystation displays when the line is accessed.	0903
Put the exchange line into an Incoming Ring Group.	Defines which group stations will ring on an incoming call.	0909
Put the exchange line into a group.	This is used to control access to the line when dialling "0".	0905
To change the operating data for the exchange line.	This covers operating data for the line, such as the type of signalling - DTMF / Decadic.	0901
To change the Trunk Access Map number.	Used to control line key access line from keystations.	0910

Adding a Microlink

The ISDN expansion board allows for the connection of two Microlink services. Each service provides two trunks, so the board can accommodate 4 trunks. As the board can only be connected to slot number 2 on the 408 Main Board (see chapter 2 Installation) these trunks will be numbered 7 to 10.

Programming for out going calls on the Microlink is the same as for an exchange line while incoming calls require special programming.

Operation	Comment	Command
Enable the ISDN function.	The default for this command is Enabled.	0016
Give the trunk a name.	The name will be shown on keystation displays when the line is accessed.	0903
Put the exchange line into a group.	This is used to control access to the line when dialling "0".	0905
To change the Trunk Access Map number.	Used to control line key access line from keystations.	0910
Put the incoming Called numbers into a table.	The tables are used to direct incoming ISDN calls to a ring group in command 0410.	0409
Allocate call type to the table and direct the tables to a ring group.	This will define the type calls that will be received, eg. Voice calls or Data calls. This command also directs the incoming calls to a ring group.	0410

Adding SMDR to the System

Station Message Detail Recording is a facility that provides a data output to an external device, such as a printer, with details of activity within the Commander D32. The facility must be enabled, the type of messages defined and the output, via a DCI, must be in a form that the external device (Printer) will recognise.

Operation	Comment	Command
Enable or disable SMDR for each statio	The default for item 1 in this command allows details to be recorded for every station.	1008
Enable or disable SMDR for each trunk port.	The default for item 12 in this command allows details to be recorded for every trunk port.	0901
Define the SMDR operating data.	Using this command you will nominate the DCI port to be used and set the parameters for the information that will be recorded.	0403

The above commands will have enabled SMDR and defined the information required in the reports. In command 0403 the DCI port where the data is to be sent is nominated.The format of that data must now be defined, so that it is compatible with external devices.

Operation	Comment	Command
Check for, or define a DCI type	This command defines the format in which data will be transmitted. S-Register 65 defines the transmission data for the DCI port. The default settings are: Baud rate 9600 Stop bit 1 Character length 8 bits Parity Even	1201
Assign a DCI type to the DCI port	This assigns the DCI type, defined in command 1201 to the port that will be used for the SMDR output.	1202
Initialise the DCI port	Simply assigning a DCI type to the port is not enough, the port must be Initialised using this command.	1207

Appendix A
Parts Serial Item and Code List

Appendix A
Parts Serial Item and Code List

Main Equipment — Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
201 BUD32-D-A	D32 Basic Unit	Includes Equipment Cabinet, 408 Main Board, mains transformer and CPU Daughter Board
202 EB208-D-A	Expansion Board 208	Accommodates 2 exchange lines 8 keystations
203 EB204-D-A	Expansion Board 204	Accommodates 2 exchange lines 4 analogue stations
204 EB004-D-A	Expansion Board 004	Accommodates 4 analogue stations
205 EBIBR-D-A	Expansion Board ISDN Basic Rate	Accommodates 2 ISDN Basic Rate Accesses
206 BCRGB-D-A	Battery Charger/ Ring Generator Board	For use with an External Battery Backup and/or analogue stations
207 BCB-D-A	Battery Charger Board	For use with an External Battery Backup
208 BC-D-A	Battery Cabinet	Cabinet for External Battery Backup. Includes all required connection cables
53 BBUM-D-A	Battery Medium	Four 12v batteries for use with the Battery Cabinet to provide an External Battery Backup

Stations Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
41 TS-D-16S	16 Key Standard Keystation	Digital Keystation with 16 line keys and no display
42 TS-D-32S	32 Key Standard Keystation	Digital Keystation with 32 line keys and no display
43 TS-D-16E	16 Key Executive Keystation	Digital Keystation with 16 line keys and 2 line LCD
44 TS-D-16E-DCI	16 Key Executive Keystation with DCI	Digital Keystation with 16 line keys, 2 line LCD and Data Communication Interface
45 TS-D-32E	32 Key Executive Keystation	Digital Keystation with 32 line keys and 2 line LCD
46 TS-D-32E-DC1	32 Key Executive Keystation with DCI	Digital Keystation with 32 line keys, 2 line LCD and Data Communication Interface
47 TS-D-32P	32 Key Premium Keystation	Digital Keystation with 32 line keys and 8 line LCD
48 TS-D-32P-DC1	32 Key Premium Keystation with DCI	Digital Keystation with 32 line keys, 8 line LCD and Data Communication Interface
51 DCI-D	Stand Alone DCI Unit	Stand Alone Data Communication Interface (requires one digital station port)
52 DCIK-D	Station DCI Kit	Used to upgrade an Executive or Premium Keystation to include a DCI. Consists of a DCI board mounted on a keystation base
213 DSSK-D	DSS Station Kit (pack of 5)	Used to convert up to 5, 32 Key Executive Keystations to DSS Stations. Comprises 5 station labels and 5 Usercards

Miscellaneous Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
210 MEC-D-A	Main Equipment Cabinet	Includes mains transformer For maintenance use only
211 MB408-D-A	Main Board 408	Excludes the CPU Daughter Board For maintenance use only
212 CPU-D-C	Central Processor Unit	Daughter Board that plugs into the 408 Main Board For maintenance use only
71 LC-D	Station Line Cord (Modular Plug)	Line cord for keystations (with modular plugs both ends)
73 HS-D	Handset with Cord	Handset and cord for keystations manufactured before July 1993
86 HS-D-B	Handset with cord	Handset and removable cord for keystations manufactured from July 1993
74 LP-D-16S	Label Pack (inc. plastic cover) 16S	5 sets of paper labels plus 1 set of plastic panels for 16 line key Standard keystations
75 LP-D-32S	Label Pack (inc. plastic cover) 32S	5 sets of paper labels plus 1 set of plastic panels for 32 line key Standard keystations
76 LP-D-16E	Label Pack (inc. plastic cover) 16E	5 sets of paper labels plus 1 set of plastic panels for 16 line key Executive keystations
77 LP-D-32E	Label Pack (inc. plastic cover) 32E	5 sets of paper labels plus 1 set of plastic panels for 32 line key Executive keystations
78 LP-D-32P	Label Pack (inc. plastic cover) 32P	5 sets of paper labels plus 1 set of plastic panels for Premium keystations
85 CON-D-A	DDK Cable Connectors	Pack of 10

Documents Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
104 DOC-D-UG-S/E	User Guide STD/EXEC	User Guide for Standard and Executive Keystation (included with keystation)
106 DOC-UG-P	User Guide Premium	User Guide for Premium Keystation (included with keystation)
107 DOC-D-UG-SLT	User Guide Single Line Telephone	User Guide for Single Line Telephone
114 DOC-D-IM-D32	I & M Manual	Installation and Maintenance Manual
11s DOC-D-SAM-D32	System Administration Manual	System Administration Manual
116 DOC-DPSRM-D32	Product Sales Reference Manual	Sales aid manual providing product details/customer benefits, etc., for use by the sales force
117 DOC-UG-SB-D32	Sales Brochure	Sales aid brochure providing customer information on product.
118 DOC-UG-D32-SOF	System Order Form User Guide	Instructions for ordering and detailing systems.

Related Items NOT in Serial 581

SERIAL, ITEM &CODE	DESCRIPTION	REMARKS
8 18/49 DOC-D-SOF-D32	D32 System Order Forms	Order forms and programming sheets for Commander D32
3381860 DS-BN	Door Station	Door Station for use with Telecom Commander D
546/2 1 WMK-E	Wall Mounting Kit	Provides wall mounting for keystations. Use with modular socket 546/23 or 546/24
30/211 or 550/204	TF200 Line Cord	Line cord with 600 series plug

Appendix B
System Order Forms

Telecom AUSTRALIA

DCRIS/Wang Berger Order No. Compulsory Fields

System Order No. (Service Plus)

TELECOM COMMANDER D32 ORDER FORM
NEW SYSTEMS

CLIENT NAME

ADDRESS

CLIENT CONTACT NAME

CLIENT PHONE NUMBER

SALES REP NAME

SALES REP PHONE NUMBER

DETAILER NAME

DETAILER PHONENUMBER

TELECOM DIVISION (✓)
COMM ☐ ☐ ☐

CLIENT SERVICE NUMBER

PABX EXTN

TYPE OF PAYMENT (✓)
☐ LEASE ☐ OUTRIGHT PURCHASE

Is this Commander replacing existing equipment?
Tick ✓
No ☐
If Yes ☐ please specify .....
.....

☐ STANDARD ☐ SHORTTERM ☐ TEMPORARY RENTAL ☐ OTHER

DATE ORDER ISSUED

DATE TO REGION

PROPOSED INSTALLATION DATE

COMMENTS/NOTES FOR INSTALLER

DELIVERYADDRESS

Stations	PCMS Code	Serial \Item	Qty.	Technical Code	AAL/DP Part No.	Delivery Carton No.	Received on Site ✓
WE-WE Line cords (Modular plugs) (No charge)		581/71		LC-D	412618		
Standard Keystation 16 Key	D1S16	581/41		TS-D-16S	498014		
Standard Keystation 32 Key	D1S32	581/42		TS-D-32S	498013		
Executive Keystation 16 Key	D1E16	581/43		TS-D-16E	498012		
Executive Keystation 16 Key with DCI	D1D16	581/44		TS-D-16E-DCI	498009		
Executive Keystation 32 Key	D1E32	581/45		TS-D-32E	498011		
Executive Keystation 32 Key with DCI	D1D32	581/46		TS-D-32E-DCI	498007		
Premium Keystation 32 Key	D1P32	581/47		TS-D-32P	498010		
Premium Keystation 32 Key with DCI	D1PD3	581/48		TS-D-32P-DCI	498008		
Extras							
Single Line Telephone User Guide (8 Max.)		581/107		DOC-D-UG-SLT	498336		
Wall Mounting Kit	D1WM	546/21		WMK-E	518406		
Door Station	D1DS	338/860		DS-BN	400450		
DSS Station Kit (pack of 5)	D3DSK	581/213		DSSK-D	498390		
Main Equipment							
Basic Unit (includes 408 Board CPU and Power Supply)	D3BU	581/201		BUD32-D-A	518283		
D32 System Administration Manual*		581/115	1	DOC-D-SAM-D32			
Expansion Board 208	D3EB	581/202		EB208-D-A	518284		
Expansion Board 204 (for SLT's)	D3EBI	581/203		EB204-D-A	518286		
Expansion Board 004 (for SLT's)	D3EB2	581/204		EB004-D-A	518285		
Expansion Board ISDN Basic Rate	D3BRB	581/205		EBIBR-D-A	525202		
Battery Charger/Ring Generator Board	D3BCR	581/206		BCRGB-D-A	518487		
Battery Charger Board	D3BCB	581/207		BCB-D-A	518500		
Battery Cabinet (D32)	D3BC	581/208		BC-D-A	525208		
Battery Medium	D1BM	581/53		BBUM-D-A	498321		

*This item is mandatory and must be included on the Service Plus order-there is no additional charge to the customer.

DCRIS/Wang Berger Order No. Compulsory Fields

System Order No (Service Plus)

STATION DETAILS

STN PORT	STN TYPE	.0502 STATION NUMBER & NAME (Compulsory Fields (No default data))		.1005 STATION GROUP		.1001 STATION TYPE: Keystation			Single Line Telephone			.1003 STATION CLASS OF SERVICE			.1002 STATION RESTRICT CLASS			.1008 STATION OPTIONS			.1009 Class 5, 10 Customised only	.1010 Secr. Port Assign
	Station Type	Station Number	Station Name ########	Stn Group (0)	Seq Number	1 Stn Type (0)	2 Exch Ring (2)	3 Intm Ring (2)	1 Dial Type (0)	3 Loop Current (0)	4 Codec Gain (1)	Day (9)	Nt 1 (9)	Nt 2 (9)	Day (1)	Nt 1 (1)	Nt 2 (1)	1 SMDR Print (1)	2 ICM Auto Seize (1)	3 Exch Auto Seize (0)	Break in Level (1)	(0)
01																						
02																						
03																						
04																						
05																						
06																						
07																						
08																						
09																						
10																						
11																						
12																						
13																						
14																						
15																						
16																						
17																						
18																						
19																						
20																						
21																						
22																						
23																						
24																						
	P=Premium E16=Exec16 E32=Exec32 S16=Stand16 S32=Stand32 SLT=2W Analog PD=Prem+DCI E16D=E16+DCI E32D=E32+DCI SDCI=Standalone DCI	Range 10-59 100-499	Maximum of 8 alphanumeric characters	Enter Grp No. 1 - 4	Enter Seq No. 1 - 24	0 = Keystn 1 = SDCI	Pitch 1 = High 2 = Medium 3 = Low		0 = Dec 1 = DTMF	0 = 20mA 1 = 35mA	1=Type 1 2=Type 2 3=Type 3 4=Type 4 5=Type 5	Enter Stn COS 1-10			1=No restriction 2=Barred IDD 3=Limited IDD, STD 4=Barred IDD, STD 5=PABX calls only 6=Intercom calls			0=No 1=Yes	0=No 1=Yes	0=No 1=Yes	0=None 1=All 2=iICM 3=Ring	Enter Secr. Port No. 01-24
		Ref .0501 Page 10		Ref .0503 1401 Page 4					For SLT Only	Tech to assign		Ref .0406 Page 9			Ref .0701 Page 8			Ref .0403 Page 10			Ref .0406 Page 9 .1003 Page 2	

1 Command 0907 is to be entered after 0905 (Page 3) and 0906 (Page 4).

2. Command 0911 is to be entered after 0910 (Page 4)

.0907 EXCH LINE ROUTE FOR STATION		.0911 EXCH LINE ACCESS MAP ASSIGN		
Stn (1)	DCI (0)	Day (1)	Nt 1 (1)	Nt 2 (1)
Enter Exch Route No. 1-4 0=Not Ass. (See Notes Page 3)		Enter Exch Access Map No 1-10 (See Notes Page 3)		
Ref .0906 Page 4		Ref .0910 Page 4		

DCRIS/Wang Berger Order No | Compulsory Fields

System Order No. (Service Plus)

EXCHANGE LINE PROGRAMMABLE OPTIONS

	.0903			.0901													.0902	.0909			.0905	
				EXCHANGE LINE TYPE														PSTN only I/C RING GROUP TARGET			O/G EXCH LINE GROUP	
EXCH PORT	SERVICE NUMBER	LINE TYPE	EXCH LINE NAME		Tech to Assign		Tech to Assign		Behind PABX								Ringer Type	Day	Nit 1	Nit 2	Group No.	Order No.
		(EL)	(max. 8 alphanumeric)	.1 Signal Type (1)	.3 Codec Gain (1)	.4 Music on Hold Source (0)	.5 PABX Recall (0)	.6 Recall Duration (0)	.7 Day (0)	.8 Nit 1 (0)	.9 Nit 2 (0)	.11 Pause (1)	.12 SMDR Printout (0)	.13 Service Type (0)	.14 Access Line (1)	.15 Outgoing Restrict (0)	(0)	(1)	(1)	(1)	(1)	(Seq.)
01																						
02																						
03																						
04																						
05																						
06																						
07																						
08																						
09																						
10																						
	Enter exchange service number or PABX extension	IB=ISDN BRA EL= PSTN Line	Enter name	0=Dec 1=DTMF	1=Type 1 2=Type 2 3=Type 3 4=Type 4 5=Type 5	0=MOH 1=BGM	0=Flash 1=Earth	0=100mS 1=600mS	0=No 1=Yes	0=No 1=Yes	0=No 1=Yes	1=Yes	0=Yes 1=No Ref. .0403 Page 10	0=Norm	0=I/C only 1=B/W	0=Yes 1=No Ref .0701 / No overrides .0701 on Page 8	0=Type 1 1=Type 2 2=Type 3 3=Type 4	Enter Incoming Ring Group 1-10 (assigned in 0908 Ref .0409 .0410 - Page 12 ISDN Ring Group assignments)			Enter O/G Group 1-10	Enter order of access for group

Steps for assigning Exchange lines

1 Go to page 4. Exchange Line Access map 0910, and set out all Access Maps required for the system

2 Insert Exchange Line Access Map numbers into Exchange Line Access Map Assign 0911 fields on page 2 to indicate Station Access to exchange lines.

3 Go to page 5 I/C Ring Group Assign 0908, and allocate the stations which are to ring for different exchange lines.

4 Insert Ring Group numbers into Incoming Ring Group Target 0909 fields on page 3 to allocate lines to each ring group.

5 While on page 3, assign outgoing exchange line groups and their sequence number in Outgoing Exchange Line Group Assignment 0905

6 Go to page 4, Routing of Exchange Line Group 0906, and allocate Exchange Line Groups into Exchange Line request routes

7 Go to page 2, and allocate Exchange Line Route numbers to stations in Exchange Line Route for stations 0907

Note: Exchange ports 9 & 10 are available for ISDN only

DCRIS/Wang Berger Order No. Compulsory Fields

System Order No (Service Plus)

.0910
EXCHANGE LINE ACCESS MAPS
Note: up to 10 Maps may be assigned

.1 MAP 1		.2 MAP 2		.3 MAP 3		.4 MAP 4		.5 MAP 5	
EXCH LINE (01-10)	ACCESS TYPE (7)	EXCH LINE (ALL)	ACCESS NPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)
Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All

.6 MAP 6		.7 MAP 7		.8 MAP 8		.9 MAP 9		.10 MAP 10	
EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)
Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-10	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All

By default, Map 1 is bothway access to all Exchange Lines.
Assign these Maps to stations (.0911 Exchange Line Access Map Assign - Page 2)

.0906
ROUTING OF EXCHANGE LINE GROUPS

ROUTE NUMBER	.1 1st O/G EXCH. GROUP (0)	.2 2nd O/G EXCH. GROUP (0)	.3 3rd O/G EXCH. GROUP (0)	.4 4th O/G EXCH. GROUP OR ROUTE NO. (0)
01	(1)			
02				
03				
04				
	Enter O/G Exch. Group No. 1-10 0=None	Enter O/G Exch. Group No. 1-10 0=None	Enter O/G Exch. Group No. 1-10 0=None	Enter O/G Exch. Group No. 1-10 OR Route No. 1001-1004 0=None

Note: Outgoing Exchange Groups assigned in 0905

.0503
STATION GROUP NUMBER AND NAME

	GROUP No	NAME							
.1 (801)									
.2 (802)									
.3 (803)									
.4 (804)									
	Enter Group Number	Enter Alphanumeric name (8 characters)							

.1401
INTERNAL PAGING ZONE

.1 Stn. Grp .1 (0)	.2 Stn. Grp .2 (0)	.3 Stn. Grp .3 (0)	.4 Stn. Grp .4 (0)
Enter Internal Paging Zone 1-2 0=None			

.1402
INTERNAL PAGING ZONE NAME

ZONE No.	NAME							
1								
2								
	Enter Alpanumeric name (8 characters)							

DCRIS/Wang Berger Order No _____ Compulsory Fields

System Order No (Service Plus)

.0908

INCOMING RING GROUP ASSIGN **Note: up to 22 I/C Ring Groups may be assigned.**

1 GROUP 1		.2 GROUP 2		3 GROUP 3		4 GROUP 4		5 GROUP 5		6 GROUP 6		7 GROUP 7		8 GROUP 8		9 GROUP 9		10 GROUP 10	
STN PORT	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)
1	(1)																		
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes	Enter Stn. No. 1-24	0=No 1=Yes

GROUP		_GROUP_		_GROUP_		_GROUP_		_GROUP_	
STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)	STN PORT (01-24)	RING SIGNAL (0)
Enter Stn. No 1-24	0=No 1=Yes	Enter Stn No. 1-24	0=No 1=Yes	Enter Stn No. I-24	0=No 1=Yes	Enter Stn No 1-24	0=No 1=Yes	Enter Stn No I-24	0=No 1=Yes

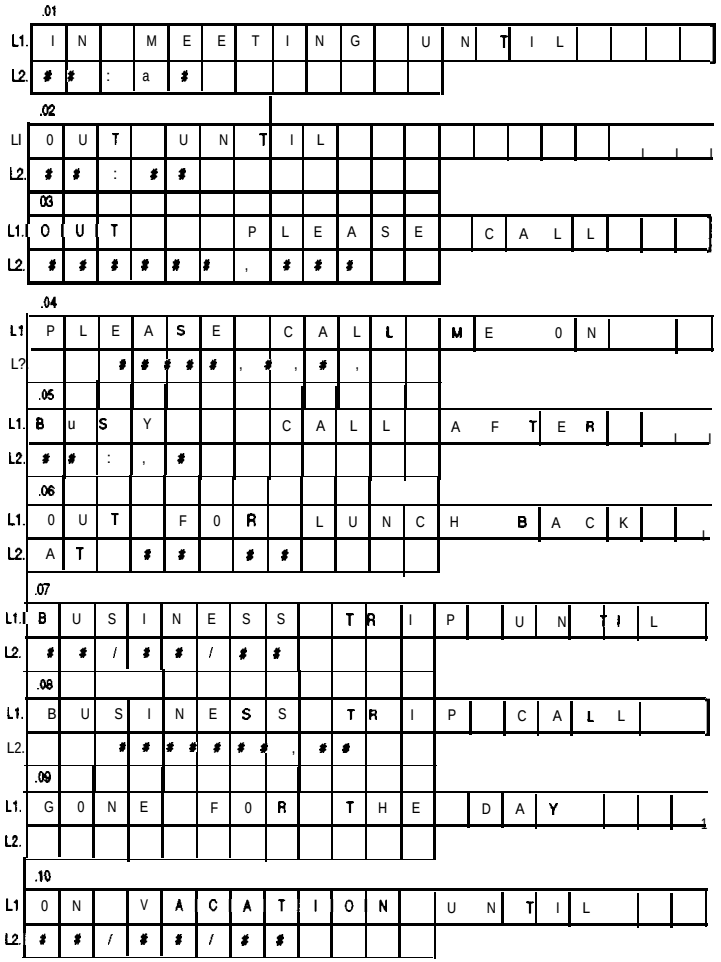
Photocopy for incoming Ring Groups 11-22

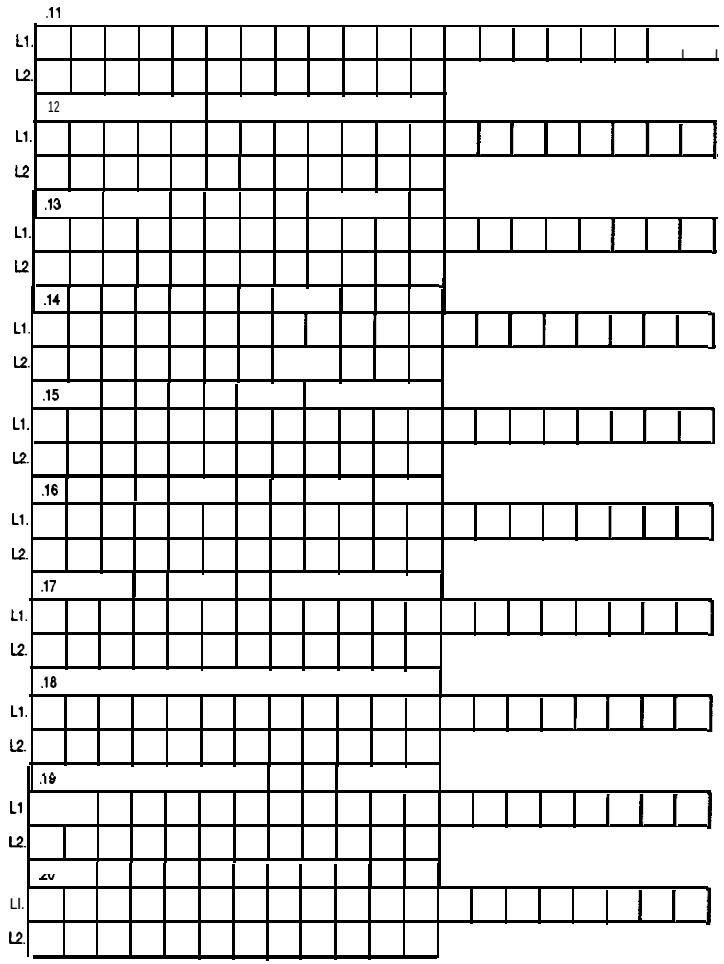
Assign these Ring Groups to Exchange Line ports (.0909 I/C Ring Group Target - Page 3)

DCRIS/Wang Berger Order No. Compulsory Fields

System Order No. (Service Plus)

.0402
TEXT MESSAGES





Note: Users with Premium or Executive 32 line keystations may enter an additional personal text message on their station by using the text message code 00

DCRIS/WangBerger Order No. Compulsory Fiilds

System Order No. (Service Plus)

.0405
SYSTEM TIMERS

Timers	SEC
.1Divert No Answer (10)	
.2 Exclusive Hold - Revert (90)	
.3 Exclusive Hold - Callback (30)	
.5 Ring Transfer Revert (30)	
.9Incoming No Answer Alarm (SO)	
.17 Door Chine Answer Duration (30)	
.28 Common Hold - Revert (90)	
.30 Long Conversation Alan - period before 1st tone (0)	
.31 Long Conversation Alan - ongoing reminder after 1st tons (0)	
.34 Common Hold - Callback (30)	
.38 Exchange Line Interdigit Timer (10)	

.1105
DSS STATION ASSIGNMENT

Stn Port No.
Enter Stm. Port No. 1-24

.0129
LINE No 4 MODE

Mode (0)
0=Exchange Line 1=Paging Speaker 2=Door Station

.1301
DOOR STATION RING ASSIGN

Stn Port No.	
Enter Stn. Port No. 1-24	0=No 1=Ring

.1403
EXTERNAL PAGING SPEAKER DATA

.1 Splash Tone (1)	.2 BGM (0)
1=On 0=Off	1=On 0=Off

.1404
EXCHANGE LINE SIGNALLING TO EXTERNAL SPEAKERS

Exch. Port No.	Day (0)	Nit 1 (0)	Nit 2 (0)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
	0=Not Ring 1=Ring		

DCRIS/Wang Berger Order No | Compulsory Fields

System Order No. (Service Plus)

.0701

ACCESS BARRING DATA

Allowed IDD/STD Codes	Barred IDD Numbers	Barred STD Numbers	Common Allowed Codes	PABX Access Codes	Digit Length Limit (7)	.1 Common Speed Dial Restriction (1)
	(0011)	(02)	(000)			
	(0014)	(03)	(008)		(0-30)	0=No Restrict 1=Restrict
	(0012)	(04)	(013)			
	(0101)	(05)	(016)			
	4 digits max.	(06)	4 digits max.	2 digits max.		
		(07)				
		(08)				
		(09)				
		(001)				
		(002)				
		(003)				
		(004)				
8 digits max		(011)				
		(018)				
		(0055)				
		(12)				
		4 digits max.				

.0801

DAY PATTERN Note: Finish time of previous set should equal start time of new set.

Time Zone Set	Pattern 1			Pattern 2			Pattern 3			Pattern 4			Pattern 5		
	Start Time	Finish Time	Mode	Start Time	Finish Time	Mode	Start Tii	Finish Time	Mode	Start Time	Finish Time	Mode	Start Tii	Finish Time	Mode
1	00:00	:		00:00			00:00			00:00			00:00		
2	:	:		:	:		:	:		:	:		:	:	
3	:	:		:	:		:	:		:	:		:	:	
4	:	:		:	:		:	:		:	:		:	:	
5	:	:		:	:		:	:		:	:		:	:	
6	:	:		:	:		:	:		:	:		:	:	
7	:	:		:	:		:	:		:	:		:	:	
8	:	:		:	:		:	:		:	:		:	:	
9	:	:		:											
10	:	:		:											
	Enter Start Hours:Mins eg. 18:15	Enter End Hours:Mins eg. 18:15	0=Day 1=Nit 1 2=Nit 2	Enter Start Hours:Mins eg. 18:15	Enter End Hours:Mins eg 18:15	0=Day 1=Nit 1 2=Nit 2	Enter Start Hours:Mins eg.18:15	Enter End Hours:Mins eg.18:15	0=Day 1=Nit 1 2=Nit 2	Enter Start Hours:Mins eg.18:15	Enter End Hours:Mins eg.18:15	0=Day 1=Nit 1 2=Nit 2	Enter Start Hours:Mins eg.18:15	Enter End Hours:Mins eg. 18:15	0=Day 1=Nit 1 2=Nit 2

.0802

WEEKLY SCHEDULE

Day	Day Pattern
.1 SUN	
.2 MON	
.3 TUE	
.4 WED	
.5 THU	
.6 FRI	
.7 SAT	
	Enter Applicable Time Pattern 1-5 Assign 0801

.0803

YEARLY SCHEDULE

Month	Day	Day Pattern
Enter Month 1-12	Enter Day of Public Holiday 131	Enter Time Pattern 1-5

DCRIS/Wang Berger Order No. Compulsory Fields

System Order No. (Service Plus)

.0406

CLASS OF SERVICE TABLE

Item No.	1	2	3	4	5	6	7	8	9	10
1. Hook-flash	1	1	1	1	1	1	1	1	1	1
2. Acct Code in	1	1	1	1	1	1	1	1	1	1
3. Long Conv. Alarm	1	1	1	1	1	1	1	1	1	1
4. Bypass Call	0	0	0	0	1	0	0	0	0	1
7. Data Privacy	1	1	1	1	1	1	1	1	1	1
8. Group Pick-up	0					0				
9. Other Group Pick-up	0					0				
11. Ring Inward	0	1	1	1	1	0	1	1	1	1
12. Do Not Disturb	1	1	1	1	1	1	1	1	1	1
13. Auto Intercom Call Register	0	0	0	1	1	0	0	0	1	1
14. Meet Me	1	1	1	1	1	1	1	1	1	1
15. Message Waiting										
16. Conference	0	0	1	1	1	0	0	1	1	1
17. Personal Speed Dial	0	0	1	1	1	0	0	1	1	1
18. Common Speed Dial							1	1	1	1
22. External Paging							1	1	1	1
23. Divert All	0	0	1	1	1	0	0	1	1	1
24. Camp-on Internal	0	0	0	1	1	0	0	1	1	1
25. Camp-on External	0	1		1	1	0	1	1	1	1
26. Follow Me	0	1	1	1	1	0	1	1	1	1
27. Reminder Alarm	0	0	0	0	0					
28. Night Service	0	0	0	1	1	0	0	0	1	1
31. Divert Busy/No Answer	0	0	0	1	1	0	0	0	1	1
32. Divert No Answer	0	0	0	1	1	0	0	0	1	1
41. Hot Line	1	1	1	1	1	1	1	1	1	1

Item No.	1	2	3	4	5	6	7	8	9	10
44. Splitting	1	1	1	1	1	1	1	1	1	1
45. Common Hold (0) Exclusive Hold (1)	0	0	0	0	0	0	0	0	0	0
46. Conversation Time Display	1	1	1	1	1	1	1	1	1	1
48. Last Number Redial	1	1	1	1	1	1	1	1	1	1
49. Saved Number Redial	1	1	1	1	1	1	1	1	1	1
50. Pre-set Dialling	1	1	1	1	1	1	1	1	1	1
52. Internal Paging	0	0	1	1	1	0	0	1	1	1
53. Background Music	1	1	1	1	1	1	1	1	1	1
54. Room Monitor	0	0	0	0	1	0	0	0	0	1
55. Room Monitored	1	1	1	1	1	1	1	1	1	1
56. Confidence Tone	1	1	1	1	1	1	1	1	1	1
59. Exchange line access by idle dialling	1	1	1	1	1	1	1	1	1	1
60. Operator access by idle dialling	1	1	1	1	1	1	1	1	1	1
65. Internal Outgoing	1	1	1	1	1	1	1	1	1	1
66. External Outgoing	1	1	1	1	1	1	1	1	1	1
67. Pick-up Station	1	1	1	1	1	1	1	1	1	1
68. Pilot Number Called Station	0	0	0	0	1	0	0	0	0	1
72. Break-in	0	0	0	0	0	1	1	1	1	1
73. Buzz	0	0	0	0	0	1	1	1	1	1
74. Signal/Voice Called	0	0	0	0	0	1	1	1	1	1
75. Station Programming	0	0	0	0	0	1	1	1	1	1
76. DCI Programming	1	1	1	1	1	1	1	1	1	1
78. Clock Data Set	0	0	0	0	0	0	0	0	0	0
79. Signal/Voice Change Calling	1	1	1	1	1	1	1	1	1	1
80. Transmitter Mute	1	1	1	1	1	1	0	1	1	1
81. Repeat Dialling	0	0	1	1	1	0	0	1	1	1
82. Text Message										

Note: 1=Yes
0=No

Allocate these Service Classes to stations in SA1003 Station Class of Service (page 2)

DCRIS/WangBerger Order No | Compulsory Fields

System Order No. (Service Plus)

.0303

INTERNAL M.O.H TONE

Type (0)
0=Type 1 1=Type 2

.0401 .1104

SYSTEM OPERATION DATA										OPERATOR PORT ASSIGNMENT
.1 Manual Night Switch (1)	.2 Auto Night Switch (1)	.3 I/C No Answer Alarm (0)	.4 Ex Line Toggling Action (1)	.8 Ring Priority (1)	.10 ICM Call Mode (1)	.12 Auto Ans ICM (1)	.13 Auto Ans Exch (1)	.14 Auto Ans Recall (1)	.15 Auto Charge (0)	(0)
0=Off 1=On	0=Off 1=On	0=Off 1=On	0=Ex. Hold 1=Drop Off	0=ICM 1=Exch	0=Voice 1=Signal	0=Off 1=On	0=Off 1=On	0=Off 1=On	0=Off 1=On	Enter Stn Port 1-24 0=None

.0501

DIAL DEFINITION

Dial No.	Digit No.	Facility No.
1	(3)	2
2		2
3		2
4		2
5	(0)	(0)
	Enter digit length 2 of 3	2=Station access

.0403

SMDR OPERATION DATA

Account Code (1)	Mask Digits (2)	Min Digits for Rec (0)	Pulse Cost (0)	Printer Port (0)	Max Converse Time for Rec (0)	Min I/C Call Time for Rec (0)	Print Items						
							.1 Restrict Calls (1)	.2 PABX Calls (1)	.3 Int. Data Calls (1)	.4 Summary Daily (1)	.5 Summary Weekly (1)	.6 Summary Weekly (1)	.7 Stn No & Name (1)
0=None 1=Opt. 2=Comp	Enter No. of digits to be masked 0-24	Enter Min. No. digits 1-24 0=All	Enter Pulse Cost in cents	Enter DCI Port No. 1-24	Enter No. of seconds 0=Rec All	Enter No. of seconds 0=Rec All	0=No 1=Print	0=No 1=Print	0=No 1=Print	0=No 1=Print	0=No 1=Print	0=No 1=Print	0=Name 1=Number

.0404

HOTLINE PAIR ASSIGN

Hotline 1		Hotline 2		Hotline 3		Hotline 4		Hotline 5		Hotline 6		Hotline 7		Hotline 8		Hotline 9		Hotline 10	
Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target
Enter Station Numbers (10-59/100-499) 0 = Not Assigned																			

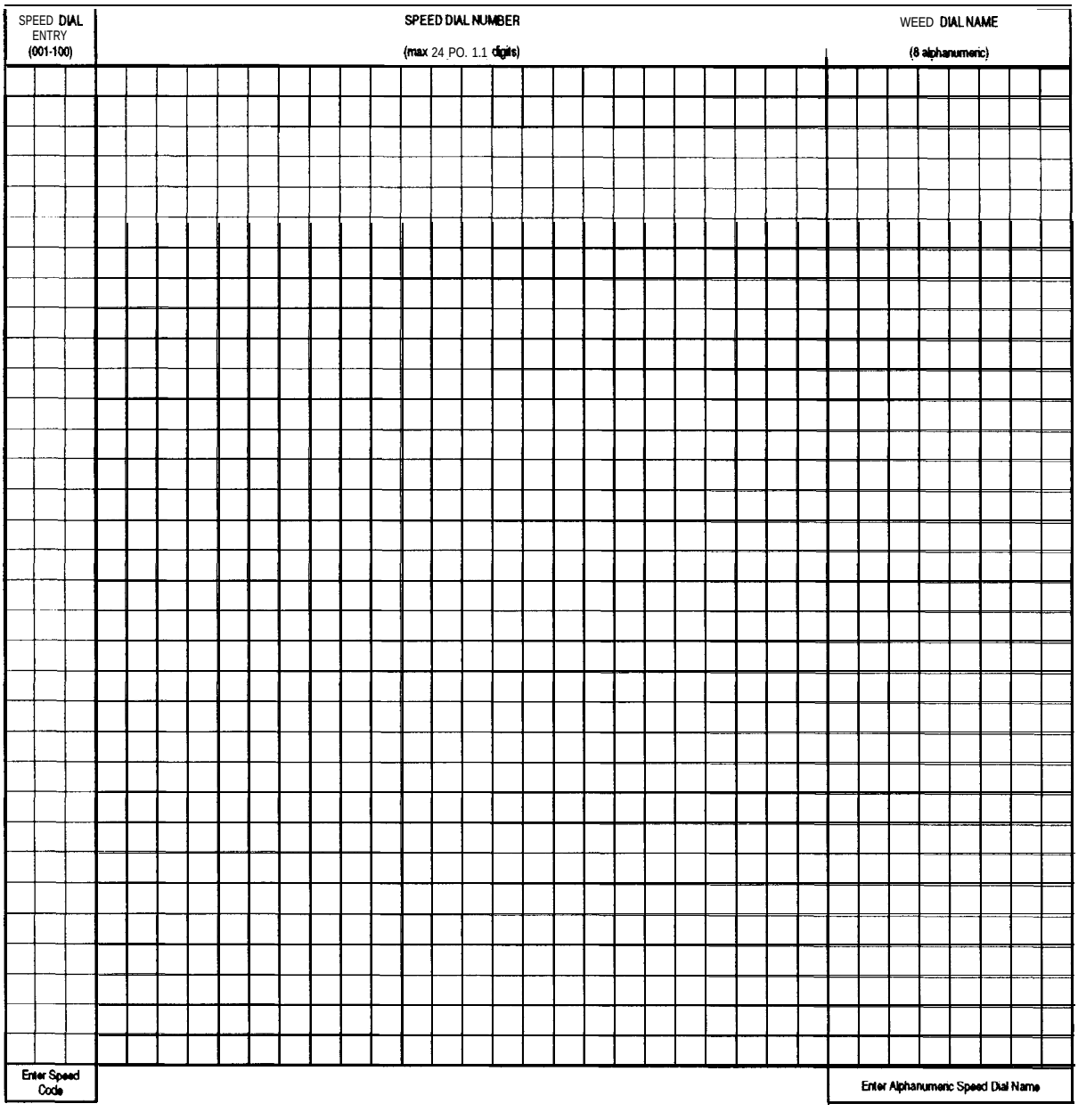
SPEED DIAL NUMBER AND NAME

DCRIS/Wang Berger Order No. Compulsory Fields

System Order No. (Service Plus)

.0601

SPEED DIAL NUMBER AND NAME



Photocopy additional copies as required.

Detailer must arrange a typed copy of all Common Speed Dial information.

Note: 1. if behind a PABX, enter the PABX access **code,** pause (P) then the number, **e.g.** OP8183731. To **include Recall,** e.g. for PABX or Network based services, enter **'R'.**

2. **Speed** Dial Entrys 001-100 are accessed by the user by diilling 01-99 and 00.

ISDN

DCRIS/Wang Berger Order No | Compulsory Fields

System Order No (Service Plus)

.0409 ISDN CALLED NUMBER

.0410 ISDN INCOMING RING GROUP

		Type 1 - Speech (ISDN)			Type 2 - Audio/PSTN				Type 3 - V110				Type 4 - Group 4 Fax			Type 5 - Audio Data Teletex			Type 6 - DCI-DCI Data			Type 7 - Unrestrict Digit		
Table	Dial Number	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Voice/ Modem	Day (0)	Night 1 (0)	Night 2 (0)	Rate (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)
1	Default (Note 2)	(1)	(1)	(1)	(1)	(1)	(1)	(0)																
2																								
3																								
4																								
5																								
6																								
7																								
8																								
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19																								
20																								
21																								
22																								
	Enter Directory Number for ISDN services	Enter Ring Groups as allocated in .0908			1. Enter Ring Group 2. Voice/Modem 0=Voice 1=Modem Type 1 2=Modem Type 2 3=Modem Type 3 4=Modem Type 4 5=Modem Type 5 6=Modem Type 6 7=Modem Type 7 8=Modem Type 8 9=User Supplied Equipment				1. Enter Ring Group as allocated in .0908 2. Enter Rate 0=CCITT V.110 1=CCITT x.30				1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908		

Note 1: Type 2 must be assigned to allow calls made from the PSTN

Note 2: Default setting -
The path the call will take if no match is made with the other options

Note 3: Table 1 has the default value of (1) such that all ISDN calls will ring at Ring Group 1 (Page 6 .0908)
Ring Group 1 has the default of ringing at station port 01
Tables 2-8 have default of (0) so a Ring Group must be assigned to these tables to make them effective.

Appendix C
Alarm Reports

Appendix C
Alarm Reports

Generating the Alarm Report

The IN 0006 command initiates the system alarm printouts. This command is described in full in Chapter Three - Programming, however a summary of the command options is provided below for reference. Alarm reports can also be viewed on a display keystation using Command 0010.

Input Data

Input Field	Description	Input data
Menu No?	Function select	1: Select printer port 2: Print alarm report history 3: Print newest alarm report 4: Clear all alarm reports 5: Set print mode
Print-port:	(Menu 1) Select printer port	0: Disable printout 1 to 24: DCI port number 1 - 24
Print-All (Yes: 1)?	(Menu 2) Print alarm report history	1: Print report
Print New (Yes: 1)?	(Menu 3) Print newest alarm report	1: Print report
All Clear (Yes: 1)?	(Menu 4) Clear all alarm reports	1: Clear report
Mode:	(Menu 5) Set print mode	0: Manual printout 1: Auto printout

Alarm Report Format

The alarm report printed in response to IN 0006 has the format shown in the following example:

```
<<  ALARM REPORT  >>                          /      01-MAR-90 15:50 PAGE 001
LVL  NO  STAT  DATE  TIME  ITEM              /      UNIT  SLT  PRT  PARAMETER
-//-
A-4 0108 ERR 01-MAR-90 14:16 Blocking         /      DSB-D-A 01 04 KST
A-4 0108 REC 01-MAR-90 15:20 Blocking         /      DSB-D-A 01 04
```

Heading Codes

The abbreviations used in the headings are:

LVL	Alarm level number (1 to 5)
NO	Alarm Number (these are described on the next page.
STAT	Alarm Status. The entry in this column is either ERR (for error) or REC (for recover)
DATE	Date of alarm error or recovery
TIME	Time of alarm error or recovery
ITEM	Item name of alarm
UNIT	Unit name
SLT	Slot number
PRT	Port number of each slot
PARAMETER	Other information. The entry in this column specifies the device associated with the alarm, either KST (for keystation), DSS (for Direct Station Select console), or DCI (for Data Communications Interface).

Alarm Types

Alarm Number and Name	Meaning	Action Required
0000 - 99	- reserved --	
0100 Board initialisation failure	Board is faulty	Remove and replace the board and ensure correct installation. If REC status is not output on the alarm report, replace with a new board.
0101 Board initial test failure	Board is faulty	Remove and replace the board and ensure correct installation. If REC status is not output on the alarm report, replace with a new board.
0102 Board install failure	Board is not installed.	Check the installation data for the board.
0103 Board communication failure	Board is faulty	Check that board is installed correctly and not manually blocked. If REC status is not output on the alarm report, replace with a new board.
0104 Down load failure	Board is blocked or sub program does not exist on the system disk.	Ensure that board is installed correctly and not blocked. Retry down load. If unsuccessful replace board and/or check data integrity.
0105 Loop back test failure	Target port is faulty	Unblock target port.
0106 Terminal initial failure	Terminal is faulty.	Check and unblock target terminal (e.g. keystation).
0107 Terminal connection failure	Terminal is faulty or disconnected.	Check the terminal connection. If the connection is correct replace terminal.
0108 Blocking	Blocking detect or terminal removed.	Check the block switch on the board, or check the keystation connection.
0109 Power source failure	Commercial power is not supplied.	Check the system AC switch or AC socket. If still faulty, replace with new power supply.
0110 RAM back up	RAM back up battery is low voltage.	Check the battery connector, or replace with a new battery.
0111 Ringer source	Ringer source is not supplied.	Check the ringer source connectors, or replace with a new ringer source.
0112-0127	- - reserved --	
0128 SMDR buffer full	SMDR buffer full.	Check the SMDR printer.

Note: Alarm 0108 Blocking
WAR (Warning) indicates that the station is disconnected. This warning will remain for 10 seconds and then be upgraded to an ERR alarm. If reconnected within the 10 seconds the warning will clear without causing an alarm but will appear on the Alarm Printout.

Alarm Number and Name	Meaning	Action Required
0129-0130	-- reserved --	
0131 ISDN Layer 1 Alarm	An ISDN Layer 1 Alarm has been activated for more than 10 seconds. The PARAMETER field of the error report indicates the type of alarm (AIS LFA LRS BER etc.)	If active for more than 1 hour or if there is an excessive number of alarm reports within 1 hour: -reset the system and observe. * If errors still occur, replace the board and observe. * If errors still occur check the terminals on the S-BUS * If errors still occur contact the ISDN network provider.
0132 ISDN Layer 2 Alarm	The number of Layer 2 MDL errors has exceded 10 per hour or the number of spontaneous Layer 2 data link releases has exceded 2 per minute. The PARAMETER field of the error report indicates the type of alarm (MDL or DL error).	Refer to alarm 0131 for action.
0133 ISDN Layer 3 Alarm	The number of Layer 3 MNL errors has exceded 10 per hour.	Refer to alarm 013 1 for action.
0134-0139	-- reserved --	

Appendix D
Station Message Details Recording (SMDR)

General Description

The SMDR provides call record printouts via a DCI to an associated printer. Up to 55 call details may appear on each printout page. Data may also be used by a Telephone Information Management System (TIMS) for more comprehensive call reporting.

The current date is printed on the top right hand side of each page of the printout, followed by the page number. The date is displayed in the format DD/MM/YY, and the page number is displayed sequentially from 001 to 999. At midnight, the SMDR prints the new date on the right hand side of the current line of the printout. The next call record is then printed on the following line.

Upon system restart, the date and page number are printed on a new page, prior to the first call being recorded. Whenever the SMDR printer is switched on or reconnected to its DCI, the date and the next sequential page number are printed on a new page. Any calls stored in the SMDR buffer while the printer is disconnected will be recorded after the date and page number. If the buffer becomes full, the information in the buffer is then recorded followed by normal call recording. The buffer can store 300 rows of information.

Printout format

The format of the SMDR printout is as follows:

Note: The column headings used on the printout are shown in brackets.

Column 1

Call Number

The number of calls recorded is printed sequentially from 01 to 55 on each page.

Column 2 (CLASS)

Class of Call

The type of call is recorded as follows:

PSTN Incoming call	PIN
PSTN Outgoing call	POT
ISDN Incoming Voice call	IVIN
ISDN Outgoing Voice call	IVOT
ISDN Incoming Data call	IDIN
ISDN Outgoing Data call	IDOT
Internal Data call	SDTA
All Exchange Lines Busy	ALB
Barred Outgoing call	BRD
Buffer Full	BFL

NOTE: If the printer is out of service for a lengthy period of time, the SMDR buffer may become full. This means new calls cannot be recorded, however the number of calls for which information is lost is printed out on an hourly basis when the printer is reconnected.

Column 3 (TIME)

Time of Call

Indicates the time of call in hours and minutes (24-hour format).

Column 4 (LINE)

Line Number or Identity

Indicates the line number or its 8 character identity (if programmed) used for the outgoing or incoming call.

Column 5 (DURATION)

Duration of Call

Indicates the duration of the call in hours, minutes and seconds.

Column 6 (STATION)

Station Number or Identity

Indicates the number or identity (if programmed) of the station that made the call.

Column 7 (DIALLED NO.CLI)

Dialled Number/Calling Line Identification

The number dialled on outgoing calls, or the identification of a calling party on incoming ISDN calls is indicated in this column. A maximum of 20 digits will be printed. The last two digits of an outgoing number dialled will be either printed or replaced with 'XX' to maintain privacy requirements. This is an option programmable at the 'System Administrator' level.

Column 8 (RD/COST)

Ring Duration/Cost of Call

Indicates the duration of ring tone before an incoming call is answered. The time is indicated in minutes and seconds, to a maximum of 9:59 minutes. The SMDR is able to record the ring duration of unanswered calls. Recording the ring duration of unanswered calls is an option programmable at the 'System Administrator' level. If this option is invoked, the words 'NO ANSWER' will appear in column 9, in place of the account code. The station number is not recorded.

Column 9 (ACCOUNT)

Account Code

If an account code is entered during a conversation, the number is indicated here. The code may be up to 8 digits long.

Options

The following options are available for the SMDR printout. These are programmable at the System Administrator level:

- Exemption of certain lines from call details recording.
- Exception of certain stations from call details recording.
- Account codes may be compulsory, optional or not available.
- Printouts of calls to a parent PABX are optional.
- Printouts for barred calls are optional.
- Printouts for internal data calls are optional.
- Printouts for calls exceeding one minute's duration only.
- Printouts for calls exceeding a specified number length only.

Malicious Call Trace Recording (ISDN)

Advice of a malicious call trace activated from a station will be recorded by the SMDR on a separate line, with the following format:

- The time is recorded in Column 3.
- The line number or identity is recorded in Column 4.
- The station number or identity is recorded in Column 6.
- The message 'MALICIOUS CALL TRACE' is printed in the 'number dialled' column (Column 7) of the printout.
- All other columns remain blank.

Summary Printouts

The system can be programmed to provide any or all of the following summary printouts:

Daily (printed out at midnight)

```
OUTGOING  CALL
FOR DAY OF DD/MM/YY

     TOTAL NO. OF OUTGOING PSTN CALLS:
     TOTAL NO. OF OUTGOING ISDNCALLS:
```

Weekly (printed out at midnight on Saturday)

```
OUTGOING  CALL
FOR WEEK ENDING DD/MM/YY

     TOTAL NO. OF OUTGOING PSTN CALLS:
     TOTAL NO. OF OUTGOING ISDN CALLS:
```

Monthly (printed out at midnight on the last day of the month)

```
OUTGOING  CALL
FOR MONTH ENDING DD/MM/YY

     TOTAL NO. OF OUTGOING PSTN CALLS:
     TOTAL NO. OF OUTGOING ISDNCALLS:
```

Index